

## Compilation of Changes to the CPC Scheme Between 2024.05 and 2024.08

### Presentation Details

Entries for new symbols and headings:	<i>Black text in italics</i>
Entries for existing symbols and headings	
—text insertions:	<i>Green text in italics</i>
—text deletions:	<del>Red strikethrough text with grey background</del>
Entries for deleted symbols and headings:	<del>Black strikethrough text</del>

- In cases when the originating project cannot be found, "Unknown" is given for the Project information.
- Projects ending in "-F" indicate finalisation after reclassification was completed.

### Project: MP12136 (A01F)

- M A01F 2015/0725 . . . {Film dispensers for film rollers in a satellite type wrapper, e.g. holding and tensioning means for the film roller ~~(the rotating arm itself A01F 2015/073)~~}
- M A01F 2015/073 . . . {Features related to the horizontal rotating arm of a wrapping device of the satellite type ~~(features of film dispensers A01F 2015/0725)~~}
- U A01F 25/00 Storing agricultural or horticultural produce; Hanging-up harvested fruit (maturing fruit [A23N 15/06](#); arrangements in barns for preparatory treatment of tobacco [A24B 1/02](#); packing or storing hops [C12C 3/04](#))**
- U A01F 25/14 . Containers specially adapted for storing
- M A01F 2025/142 . . {Machinery for making sausage-like groups of bales by wrapping or bagging ~~(for bagging of loose material A01F 2025/145)~~}
- M A01F 2025/145 . . {Bagging machines for loose materials making some kind of "sausage" on the field ~~(making sausage-like groups of bales A01F 2025/142)~~}
- U A01F 25/16 . Arrangements in forage silos
- U A01F 25/20 . . Unloading arrangements
- U A01F 25/2027 . . . {for trench silos}
- M A01F 2025/2054 . . . . {Machinery for cutting successive parallel layers of material in a trench silo ~~(for shredding A01F 2025/2063)~~}

### Project: MP12111 (A22C)

- U A22C 13/00 Sausage casings {(made of animal intestines [A22C 17/14](#))}**
- M A22C 2013/0056 . {nets and similar open structures to hold sausages and meat in general ~~(making nets D04G; filling sausage products into sleeve netting A22C 11/005)~~}
- M A22C 2013/0079 . {printable sausage casings or sausage casings showing any kind of indicia ~~(printing textiles D06P)~~}

### Project: MP12136 (A23G)

- U A23G 2200/00 containing organic compounds, e.g. synthetic flavouring agents**
- M A23G 2200/14 . containing fruits, nuts, e.g. almonds, seeds, plants, plant extracts; ~~or essential oils (gums A23G 2200/06)~~

### Project: MP12111 (A46B)

- U A46B 2200/00 Brushes characterized by their functions, uses or applications**
- U A46B 2200/10 . For human or animal care
- M A46B 2200/104 . . Hair brush ~~(bristles arrangements for hair brushes A46B 9/023)~~
- M A46B 2200/1046 . . Brush used for applying cosmetics ~~(bristles arrangements for cosmetic brushes A46B 9/021)~~

**Project: MP12136 (A47L)**

- U A47L 2401/00 Automatic detection in controlling methods of washing or rinsing machines for crockery or tableware, e.g. information provided by sensors entered into controlling devices
- M A47L 2401/06 · Water supply, circulation or discharge information (~~water level A47L 2401/09; water pressure or flow rate A47L 2401/14~~)
- U A47L 2501/00 Output in controlling method of washing or rinsing machines for crockery or tableware, i.e. quantities or components controlled, or actions performed by the controlling device executing the controlling method
- M A47L 2501/16 · Sterilisers (~~Steam generators A47L 2501/14~~)

**Project: MP12136 (A61B)**

- U A61B 17/00 Surgical instruments, devices or methods, e.g. tourniquets ([A61B 18/00](#) takes precedence; contraceptive devices, pessaries, or applicators therefor [A61F 6/00](#); eye surgery [A61F 9/007](#); ear surgery [A61F 11/00](#))
- M A61B 2017/00004 · {(bio)absorbable, (bio)resorbable, ~~resorptive or resorptive~~} (for implantable prostheses [A61F 2210/0004](#))

**Project: MP12111 (A61B)**

- U A61B 2017/00017 · {Electrical control of surgical instruments}
- M A61B 2017/00115 · · {with audible or visual output (~~with imaging means A61B 90/37, A61B 34/20~~)}
- U A61B 17/00234 · {for minimally invasive surgery ([A61B 17/0218](#), [A61B 17/0469](#), [A61B 17/12013](#), [A61B 17/1285](#), [A61B 17/29](#), [A61B 17/320016](#) take precedence)}
- M A61B 2017/00353 · · {one mechanical instrument performing multiple functions, e.g. cutting and grasping (~~channel for multiple instruments A61B 2017/3445; instrument channel A61B 2017/22072; replaceable heads A61B 2017/2931; suction A61M 1/00~~)}
- M A61B 2017/0046 · {with a releasable handle; with handle and operating part separable (~~for prosthetic joint-implanting tools A61F 2/4603~~)}

**Project: MP12136 (A61B)**

- M A61B 2017/00464 · · {for use with different instruments (~~with hole for different instruments A61B 2017/22072~~)}
- U A61B 2017/00831 · {Material properties}
- M A61B 2017/00858 · · {high friction; **or** non-slip (~~on handles A61B 2017/00429~~)}
- M A61B 2017/00862 · · {elastic or resilient (~~for sutures A61B 2017/0618~~)}
- M A61B 2017/00867 · · {shape memory effect (~~for prostheses A61F 2210/0014~~)}

**Project: MP12111 (A61B)**

- U A61B 17/02 · for holding wounds open; Tractors ({specula [A61B 1/32](#)}; drainage appliances for wounds [A61M 27/00](#))
- M A61B 2017/0237 · · {for heart surgery (~~endoscopic heart surgery A61B 2017/00243; endoscopic access devices, i.e. trocars, A61B 17/34~~)}

**Project: MP12136 (A61B)**

- M A61B 2017/0243 · · · {for immobilizing local areas of the heart, e.g. while it beats (~~trocars attached to inner organs or inner body tissue A61B 2017/3488~~)}

**Project: MP12111 (A61B)**

- U A61B 17/04 . . . for suturing wounds; Holders or packages for needles or suture materials (suture materials [A61L 17/00](#))
- U A61B 17/0401 . . . {Suture anchors, buttons or pledgets, i.e. means for attaching sutures to bone, cartilage or soft tissue; Instruments for applying or removing suture anchors ([A61B 17/0642](#) takes precedence; fixation devices for tendons or ligaments [A61F 2/0811](#))}
- M A61B 2017/0403 . . . {Dowels ~~(other bone dowels A61B 17/68; dowels for connecting prosthetic parts A61F 2002/30433)~~}
- M A61B 2017/0408 . . . {Rivets ~~(other bone rivets A61B 17/68; rivets for connecting prosthetic parts A61F 2002/30433, A61F 2220/0041)~~}

**Project: MP12136 (A61B)**

- M A61B 2017/0409 . . . {Instruments for applying suture anchors ~~(for applying suture clamps, clips or locks A61B 2017/0488)~~}
- M A61B 2017/0411 . . . {Instruments for removing suture anchors ~~(for removing suture clamps, clips or locks A61B 2017/049)~~}
- M A61B 2017/0414 . . . {having a suture-receiving opening, e.g. lateral opening ~~(lateral eyelet for attaching suture to needle A61B 2017/06019)~~}
- U A61B 17/0469 . . . {Suturing instruments for use in minimally invasive surgery, e.g. endoscopic surgery}
- M A61B 2017/047 . . . {having at least one proximally pointing needle located at the distal end of the instrument, e.g. for suturing trocar puncture wounds starting from inside the body ~~(J-shaped suture needles A61B 2017/0608)~~}

**Project: MP12111 (A61B)**

- U A61B 17/0487 . . . {Suture clamps, clips or locks, e.g. for replacing suture knots; Instruments for applying or removing suture clamps, clips or locks (suture anchors [A61B 17/0401](#); wound clamps or clips [A61B 17/08](#); ligaturing clamps or clips [A61B 17/122](#))}
- M A61B 2017/0488 . . . {Instruments for applying suture clamps, clips or locks ~~(for applying suture anchors A61B 2017/0409; for applying wound clamps A61B 17/10; for applying ligaturing clamps or clips A61B 17/128)~~}
- M A61B 2017/049 . . . {Instruments for removing suture clamps, clips or locks ~~(for removing suture anchors A61B 2017/0411; for removing wound clamps A61B 17/10; for removing ligaturing clamps or clips A61B 17/128)~~}

**Project: MP12136 (A61B)**

- U A61B 17/06 . . . Needles {; Sutures; Needle-suture combinations}; Holders or packages for needles or suture materials (puncturing needles [A61B 17/34](#); hypodermic needles [A61M 5/32](#) {; sewing needles [D05B 85/00](#))}
- U A61B 17/06004 . . . {Means for attaching suture to needle (tipping [A61B 17/06195](#); connecting wire to other metallic objects [B21F 15/00](#))}
- M A61B 2017/06019 . . . {by means of a suture-receiving lateral eyelet machined in the needle ~~(lateral opening for attaching suture to suture anchor A61B 2017/0414)~~}

**Project: MP12111 (A61B)**

- M A61B 2017/06033 . . . {using adhesives ~~(glue applicators A61B 17/00491; for connecting prosthetic parts A61F 2002/30448)~~}

**Project: MP12136 (A61B)**

- M A61B 2017/06038 . . . . {soldered ~~or~~, brazed or welded ~~(for connecting prosthetic parts A61F 2002/30451, A61F 2220/0058)}~~
- M A61B 2017/06052 . . . . {Needle-suture combinations in which a suture is extending inside a hollow tubular needle, e.g. over the entire length of the needle ~~(hollow suture needles A61B 2017/061)}~~}
- U A61B 17/06066 . . . . {Needles, e.g. needle tip configurations (making needles [B21G 1/00](#))}
- M A61B 2017/06076 . . . . {helically or spirally coiled ~~(for sutures A61B 2017/06174)}~~}
- M A61B 2017/06085 . . . . {having a blunt tip ~~(blunt dissectors A61B 2017/320044)}~~}

**Project: MP12111 (A61B)**

- M A61B 2017/0609 . . . . {having sharp tips at both ends, e.g. shuttle needle alternately retained and released by first and second facing jaws of a suturing instrument ~~(MIS suturing instruments A61B 17/0469; jaws of MIS forceps A61B 2017/2926)}~~}

**Project: MP12136 (A61B)**

- M A61B 2017/061 . . . . {hollow or tubular ~~(suture extending inside a hollow needle A61B 2017/06052; hollow sutures A61B 2017/06185)}~~}
- U A61B 17/06166 . . . . {Sutures (suture materials [A61L 17/00](#); manufacture of artificial threads [D01D](#); treatment of threads [D06M](#))}
- M A61B 2017/06171 . . . . {helically or spirally coiled ~~(for needles A61B 2017/06076)}~~}
- M A61B 2017/0618 . . . . {elastic, e.g. stretchable ~~(for prostheses A61F 2210/0057)}~~}
- M A61B 2017/06185 . . . . {hollow or tubular ~~(hollow suture needles A61B 2017/061)}~~}

**Project: MP12111 (A61B)**

- M A61B 2017/0619 . . . . {thermoplastic, e.g. for bonding, welding, fusing or cutting the suture by melting it ~~(suture cutters A61B 17/0467; ultrasonic cutters A61B 17/320068; electrically heated instruments A61B 18/08)}~~}

**Project: MP12136 (A61B)**

- U A61B 17/11 . . . . {for performing anastomosis; Buttons for anastomosis}
- M A61B 2017/1135 . . . . {End-to-side connections, e.g. T- or Y-connections ~~(Y-shaped blood vessel prostheses A61F 2002/065)}~~}

**Project: MP12111 (A61B)**

- U A61B 17/22 . . . . {Implements for squeezing-off ulcers or the like on {the inside of} inner organs of the body; Implements for scraping-out cavities of body organs, e.g. bones; Calculus removers; Calculus smashing apparatus; {Apparatus for removing obstructions in blood vessels, not otherwise provided for (dilators [A61M 29/00](#))}
- U A61B 2017/22051 . . . . {with an inflatable part, e.g. balloon, for positioning, blocking, or immobilisation ([A61B 2017/22048](#), [A61B 2017/3486](#) take precedence)}
- M A61B 2017/22065 . . . . {Functions of balloons ~~(dilating A61M 29/02)}~~}
- M A61B 2017/22072 . . . . {with an instrument channel, e.g. for replacing one instrument by the other ~~(in cannulas A61B 17/3417)}~~}

**Project: MP12136 (A61B)**

- U A61B 17/32      • Surgical cutting instruments {([A61B 18/042](#) takes precedence; suture cutters [A61B 17/0467](#); instruments for ligaturing or cutting [A61B 17/128](#); instruments for rupturing the amniotic membrane [A61B 17/4208](#); specially adapted knives for eye surgery [A61F 9/0133](#))}
- M A61B 2017/320044   • • {Blunt dissectors ~~(blunt suture needles A61B 2017/06085)~~}
- M A61B 2017/320052   • • {Guides for cutting instruments ~~(by marking A61B 2090/395)~~}
- U A61B 17/34      • Trocars; Puncturing needles {(pointed biopsy instruments [A61B 10/0233](#); devices for piercing the ear-lobes [A44C 7/001](#); seals or hemostasis valves [A61M 39/06](#))}
- U A61B 17/3417      • • {Details of tips or shafts, e.g. grooves, expandable, bendable; Multiple coaxial sliding cannulas, e.g. for dilating (syringe needles [A61M 5/32](#); dilators [A61M 29/00](#))}
- U A61B 17/3421      • • • {Cannulas}
- M A61B 2017/3445      • • • • {used as instrument channel for multiple instruments ~~(catheters A61B 2017/22072)~~}

**Project: MP12111 (A61B)**

- U A61B 18/00      **Surgical instruments, devices or methods for transferring non-mechanical forms of energy to or from the body (eye surgery [A61F 9/007](#); ear surgery [A61F 11/00](#))**
- U A61B 2018/00571   • {for achieving a particular surgical effect}
- M A61B 2018/00613   • • {Irreversible electroporation ~~(reversible electroporation A61N 1/327)~~}

**Project: MP12136 (A61B)**

- U A61B 18/18      • by applying electromagnetic radiation, e.g. microwaves (radiation therapy [A61N 5/00](#))
- U A61B 18/20      • • using laser
- M A61B 2018/2065   • • • {Multiwave; Wavelength mixing, e.g. using four or more wavelengths ~~(pilot laser A61B 2018/2025)~~}

**Project: MP12111 (A61B)**

- U A61B 2562/00      **Details of sensors; Constructional details of sensor housings or probes; Accessories for sensors**
- U A61B 2562/02      • Details of sensors specially adapted for in-vivo measurements
- M A61B 2562/0295   • • Strip shaped analyte sensors for apparatus classified in [A61B 5/145](#) or [A61B 5/157](#) ~~(disposable multilayered or laminated electrodes G01N 27/307; details of handling chemical test elements G01N 33/4875)~~

**Project: MP12136 (A61F)**

- U A61F 2/00      **Filters implantable into blood vessels; Prostheses, i.e. artificial substitutes or replacements for parts of the body; Appliances for connecting them with the body; Devices providing patency to, or preventing collapsing of, tubular structures of the body, e.g. stents (as cosmetic articles, see the relevant subclasses, e.g. wigs, hair pieces, [A41G 3/00](#), [A41G 5/00](#); artificial nails [A45D 31/00](#); dental prostheses [A61C 13/00](#); materials for prostheses [A61L 27/00](#); artificial hearts [A61M 60/00](#); artificial kidneys [A61M 1/14](#))**
- U A61F 2/0077      • {Special surfaces of prostheses, e.g. for improving ingrowth ([A61F 2/30767](#) takes precedence)}
- M A61F 2002/0086   • • {for preferentially controlling or promoting the growth of specific types of cells or tissues ~~(of bone tissue onto implantable joints A61F 2002/3093)~~}

- M A61F 2002/009 . . {for hindering or preventing attachment of biological tissue ~~(of bone tissue onto implantable joints A61F 2002/30932)~~}
- U A61F 2/02 . . {Prostheses implantable into the body {(closure means for urethra or rectum or for artificial body openings therefor [A61F 2/0004](#))}}
- U A61F 2/08 . . {Muscles; Tendons; Ligaments {(sutures [A61B 17/04](#))}}
- M A61F 2002/0894 . . . {Muscles ~~(non-implantable A61F 2002/5066)~~}
- U A61F 2/50 . . {Prostheses not implantable in the body {(closure means for urethra or rectum or for artificial body openings therefor [A61F 2/0004](#))}}
- M A61F 2002/5003 . . {having damping means, e.g. shock absorbers ~~(for implantable joints A61F 2002/30563)~~}
- M A61F 2002/5007 . . {having elastic means different from springs, e.g. including an elastomeric insert ~~(elastic coating A61F 2002/3007; springs A61F 2002/5072; plate-like springs for feet A61F 2002/6657)~~}
- U A61F 2002/501 . . {having an inflatable pocket filled with fluid, i.e. liquid or gas}
- M A61F 2002/5013 . . . {filled with particles ~~(for joints A61F 2002/30588)~~}
- M A61F 2002/5016 . . {adjustable ~~(for implantable prostheses A61F 2002/30537)~~}
- M A61F 2002/502 . . . {for adjusting length ~~(for implantable joints A61F 2002/3055)~~}
- M A61F 2002/5033 . . . {for adjusting damping ~~(damping means A61F 2002/5003)~~}
- M A61F 2002/5038 . . {Hinged joint, e.g. with transverse axle restricting the movement ~~(for implantable joints A61F 2002/30624)~~}
- M A61F 2002/5066 . . {Muscles ~~(implantable A61F 2002/0894)~~}
- M A61F 2002/5067 . . {having rolling elements between articulating surfaces ~~(for implantable joints A61F 2002/30639)~~}
- M A61F 2002/5072 . . {having spring elements ~~(spring-biased locking means A61F 2002/30505; for implantable joints A61F 2002/30565; other elastic means A61F 2002/5007)~~}
- M A61F 2002/5081 . . {Additional features ~~(for implantable joints A61F 2002/30535)~~}
- M A61F 2002/5084 . . . {telescopic ~~(adjusting length A61F 2002/502)~~}
- M A61F 2002/509 . . . {specially designed for children, e.g. having means for adjusting to their growth ~~(implantable A61F 2250/0082)~~}
- M A61F 2002/5092 . . . {Identification means ~~(for implantable prostheses A61F 2250/0085)~~}

**Project: MP12111 (A61F)**

- M A61F 2002/5093 . . {Tendon- or ligament-replacing cables ~~(implantable A61F 2/08)~~}

**Project: MP12136 (A61F)**

- M A61F 2002/5096 . . {Ball-and-socket joints ~~(for implantable joints A61F 2002/30649)~~}
- U A61F 2/68 . . {Operating or control means}
- M A61F 2002/6863 . . . {magnetic ~~(magnetic prosthetic parts A61F 2002/30079)~~}

**Project: MP12111 (A61F)**

- M A61F 2002/6872 . . . {attached and mechanically operated by remaining muscle ~~(bioelectrical control A61F 2/72)~~}

**Project: MP12136 (A61F)**

- U A61F 2/70 . . . electrical
- M A61F 2002/705 . . . {Electromagnetic data transfer ~~(for implantable prostheses A61F 2250/0002)~~}

- U A61F 2/76 . . Means for assembling, fitting or testing prostheses, e.g. for measuring or balancing, {e.g. alignment means}
- M A61F 2002/7605 . . . {for assembling by heating ~~{for implanting artificial joints A61F 2002/465}~~}
- M A61F 2002/761 . . . {for assembling by cooling ~~{for implanting artificial joints A61F 2002/4653}~~}

**Project: MP12111 (A61F)**

- M A61F 2002/7615 . . . {Measuring means ~~{for implanting artificial joints A61F 2/4657}~~}
- M A61F 2002/7695 . . . {Means for testing non-implantable prostheses ~~{for testing implantable prostheses A61F 2240/008; for implanting artificial joints A61F 2/468}~~}

**Project: MP12136 (A61F)**

- U A61F 2/78 . . Means for protecting prostheses or for attaching them to the body, e.g. bandages, harnesses, straps, or stockings for the limb stump
- M A61F 2002/7806 . . . {using adhesive means ~~{for connecting prosthetic parts A61F 2002/30448}~~}
- U A61F 2/7812 . . . {Interface cushioning members placed between the limb stump and the socket, e.g. bandages or stockings for the limb stump}
- M A61F 2002/7818 . . . . {Stockings or socks for the limb stump ~~{cosmetic coverings A61F 2002/5001}~~}
- M A61F 2002/7862 . . . {Harnesses, straps or straps} ~~{for connecting prosthetic parts A61F 2002/30462}~~}
- M A61F 2002/7875 . . . {with releasable ratchets or pegs ~~{snap connections A61F 2002/305; pushing a peg into a hole A61F 2002/30331}~~}
- M A61F 2002/7881 . . . {using hook and loop-type fasteners ~~{for connecting prosthetic parts A61F 2002/30467}~~}

- U A61F 7/00** **Heating or cooling appliances for medical or therapeutic treatment of the human body (heating or cooling means in connection with bedsteads or mattresses [A47C 21/00](#) {; massage, therapeutic baths [A61H](#)}; hyperthermia using electric or magnetic fields or ultrasound [A61N](#); electric heating elements [H05B](#))**
- U A61F 7/02 . . Compresses or poultices for effecting heating or cooling
- M A61F 2007/0268 . . {having a plurality of compartments being filled with a heat carrier ~~{heat packs stored in pockets A61F 2007/023, A61F 2007/0238}~~}
- M A61F 2007/0273 . . . {with openings in the walls between the compartments serving as passageways for the filler ~~{flowing in circuits A61F 2007/0054, A61F 2007/0059}~~}
- U A61F 2007/0277 . . {Other details of hot water bottles, heat packs or cold packs}
- M A61F 2007/0279 . . . {Removable covers or sleeves ~~{pockets connected to the body or parts thereof A61F 2007/023, A61F 2007/0238}~~}
- U A61F 13/00** **Bandages or dressings (radioactive dressings {[A61N 5/1029](#)}); Absorbent pads**
- U A61F 2013/00089 . . {Wound bandages ([A61F 2013/00361](#) takes precedence;)}
- U A61F 2013/00157 . . {for burns or skin transplants ([A61F 2013/00187](#) takes precedence; not adhering to the wound [A61F 2013/00217](#))}
- M A61F 2013/00161 . . . {with wax, e.g. petroleum or bees-~~{; treated with lubricants A61F 2013/00331}~~}
- M A61F 2013/00217 . . {not adhering to the wound ~~{with wax A61F 2013/00161}~~}
- U A61F 2013/00221 . . . {biodegradable, non-irritating}
- M A61F 2013/00225 . . . . {with non-degradable reinforcing layer, net or mesh ~~{absorbent core with a reinforcing structure, e.g. net A61F 2013/53463}~~}

- U A61F 2013/00238 . . {characterised by way of knitting or weaving}
- M A61F 2013/00242 . . . {to avoiding fraying or pilling (~~lint-free, i.e. non-linting or frying A61F 2013/00348~~)}
- M A61F 2013/00272 . . {protection of the body or articulation (~~safety barrier for protection of the operator A61F 2013/00297; protecting the body against ulcers A61F 2013/15024; protection in contaminated, e.g. NBC or industrial toxic ambience A61F 2013/15065~~)}
- M A61F 2013/00297 . . {safety barrier for protection of the operator (~~protection of the body or articulation A61F 2013/00272; protecting the body against ulcers A61F 2013/15024; protection in contaminated, e.g. NBC or industrial toxic ambience A61F 2013/15065; prophylaxis A61F 2013/15081~~)}
- M A61F 2013/0031 . . . {for handling common life objects, e.g. telephone (~~prophylaxis A61F 2013/15081~~)}
- U A61F 2013/00314 . . {with surface treatments}
- M A61F 2013/00331 . . . {lubricants (~~with wax, e.g. petroleum or bees- A61F 2013/00161; not adhering to the wound A61F 2013/00217; lubricant top layers A61F 2013/51073~~)}

**Project: MP12111 (A61F)**

- M A61F 2013/00357 . . {implanted wound fillings or covers (~~membranes for covering bone defects A61F 2/2846~~)}

**Project: MP12136 (A61F)**

- U A61F 2013/00361 . {Plasters}
- U A61F 2013/00365 . . {use}
- U A61F 2013/0037 . . . {for cosmesis}
- M A61F 2013/00378 . . . . {coloured as the skin (~~coloured black or yellow, or with pattern or printing A61F 2013/00153~~)}
- M A61F 2013/00382 . . . . {reconstructing the body shape (~~prosthetic device A61F 2013/00574~~)}
- M A61F 2013/00387 . . . {skin protection (~~protection of the body or articulation A61F 2013/00272; safety barrier for protection of the operator A61F 2013/00297; for protection of suture stitches A61F 2013/00455; protection of wound surround A61F 2013/00825~~)}
- U A61F 2013/00412 . . . {for use with needles, tubes or catheters}
- M A61F 2013/00421 . . . . {with double adhesive layer (~~with cyano-acrylic adhesive A61F 2013/00459; with adhesive connecting means A61F 2013/00561; adhesives for plasters A61F 2013/00655; with absorbent adhesives A61F 2013/00757; with permeable adhesive layers A61F 2013/00761; different adhesion of different adhesive layers A61F 2013/00804; changing the adhesion force with strain value A61F 2013/00838~~)}
- U A61F 2013/00451 . . . {for surgical sutures, e.g. butterfly type}
- M A61F 2013/00455 . . . . {for protection of suture stitches (~~protection of the body or articulation A61F 2013/00272; safety barrier for protection of the operator A61F 2013/00297; skin protection A61F 2013/00387; protection of wound surround A61F 2013/00825~~)}
- M A61F 2013/00459 . . . . {with cyano-acrylic adhesive (~~adhesives for mucosae A61F 2013/00714 or for use on wounds A61F 2013/00719~~)}
- M A61F 2013/0048 . . . {for toes (~~for red nails, in-grown nails or felons A61F 2013/00353~~)}
- M A61F 2013/00519 . . . {for treating burn (~~bandages for burns or skin transplants A61F 2013/00157~~)}

- M A61F 2013/00523 . . . {with hydrogel (~~wound bandages with alginate A61F 2013/00229; adhesive for plasters; with hydrogel A61F 2013/00676; water-based A61F 2013/00689; for use on mucosae A61F 2013/00714; for use on wounds A61F 2013/00719; wound humidity control with hydrocolloids or superabsorbers A61F 2013/00748; with absorbent adhesives A61F 2013/00757; with fumed silica A61F 2013/00787; with viscoelastic oil-elastomer gel A61F 2013/00893~~)}
- M A61F 2013/00531 . . . {for exfoliation (~~enzymes therefor A61F 2013/00927~~)}
- U A61F 2013/00544 . . {form or structure}
- M A61F 2013/00548 . . . {net (~~wound bandages with net structure A61F 2013/00097~~)}
- U A61F 2013/00553 . . . {with detachable parts}
- M A61F 2013/00561 . . . {with adhesive connecting means (~~plasters with a double adhesive layer A61F 2013/00421; with cyano-acrylic adhesive A61F 2013/00459; adhesives for plasters A61F 2013/00655; with absorbent adhesives A61F 2013/00757; with permeable adhesive layers A61F 2013/00761; different adhesion of different adhesive layers A61F 2013/00804; changing the adhesion force with strain value A61F 2013/00838~~)}
- M A61F 2013/00655 . . {adhesive (~~wound bandages with alginate A61F 2013/00229; plasters with a double adhesive layer A61F 2013/00421; with cyano-acrylic adhesive A61F 2013/00459; plasters for treating burn with hydrogel A61F 2013/00523; with adhesive connecting means A61F 2013/00561; adhesive for plasters, with hydrogel A61F 2013/00676; for use on mucosae A61F 2013/00714; for use on wounds A61F 2013/00719; wound humidity control with hydrocolloids or superabsorbers A61F 2013/00748; with absorbent adhesives A61F 2013/00757; with fumed silica A61F 2013/00787; with viscoelastic oil-elastomer gel A61F 2013/00893; with permeable adhesive layers A61F 2013/00761; different adhesion of different adhesive layers A61F 2013/00804; changing the adhesion force with strain value A61F 2013/00838~~)}
- U A61F 2013/00727 . . {means for wound humidity control}
- M A61F 2013/00748 . . . {with hydrocolloids or superabsorbers (~~wound bandages with alginate A61F 2013/00229; plasters with cyano-acrylic adhesive A61F 2013/00459; plasters for treating burn with hydrogel A61F 2013/00523; adhesive for plasters, with hydrogel A61F 2013/00676; water-based A61F 2013/00689; for use on mucosae A61F 2013/00714; for use on wounds A61F 2013/00719; with absorbent adhesives A61F 2013/00757; with fumed silica A61F 2013/00787; with viscoelastic oil-elastomer gel A61F 2013/00893~~)}
- U A61F 2013/00795 . . {special helping devices}
- U A61F 2013/008 . . . {easy removing of the protection sheet}
- M A61F 2013/00804 . . . {different adhesion of different adhesive layers (~~plasters with a double adhesive layer A61F 2013/00421; with cyano-acrylic adhesive A61F 2013/00459; with adhesive connecting means A61F 2013/00561; adhesives for plasters A61F 2013/00655; with absorbent adhesives A61F 2013/00757; with permeable adhesive layers A61F 2013/00761; changing the adhesion force with strain value A61F 2013/00838~~)}
- M A61F 2013/00825 . . . {protection of wound surround (~~protecting the body against ulcers A61F 2013/15024; protection in contaminated, e.g. NBC or industrial toxic ambience A61F 2013/15065; prophylaxis A61F 2013/15081; protection of the body or articulation A61F 2013/00272; safety barrier for protection of the operator A61F 2013/00297; skin protection A61F 2013/00387; for protection of suture stitches A61F 2013/00455~~)}

- M A61F 2013/00838 . . . {changing the adhesion force with strain value (~~plasters with a double adhesive layer A61F 2013/00421; with cyano-acrylic adhesive A61F 2013/00459; with adhesive connecting means A61F 2013/00561; adhesives for plasters A61F 2013/00655; with absorbent adhesives A61F 2013/00757; with permeable adhesive layers A61F 2013/00761; different adhesion of different adhesive layers A61F 2013/00804~~)}
- M A61F 2013/00855 . . {pervious to air or vapours (~~wound bandages in a special way pervious to air or vapour A61F 2013/00246~~)}
- U A61F 2013/00885 . . . {impervious, i.e. occlusive bandage}
- M A61F 2013/00893 . . . . {viscoelastic oil-elastomer gel (~~adhesives based on oil A61F 2013/00693; on rubber A61F 2013/00697; hydrogel-based adhesives for plasters A61F 2013/00676~~)}
- U A61F 2013/00902 . . {containing means}
- U A61F 2013/00919 . . . {for physical therapy, e.g. cold or magnetic}
- M A61F 2013/00923 . . . . {triboelectricity (~~wound bandages with triboelectric materials A61F 2013/0034~~)}
- M A61F 2013/00936 . . . {metal (~~wound bandages with a metallic layer A61F 2013/00234~~)}
- M A61F 2013/0094 . . . {for sensing physical parameters (~~plasters for conducting test A61F 2013/00429~~)}

**Project: MP12111 (A61F)**

- U A61F 13/15 . Absorbent pads, e.g. sanitary towels, swabs or tampons for external or internal application to the body (non-absorbent catamenial receptacles [A61F 5/44](#)); Supporting or fastening means therefor; Tampon applicators
- U A61F 13/45 . . characterised by the shape (cup-shaped type tampons [A61F 13/2045](#))
- U A61F 2013/4512 . . . {folded in special shape during use ([A61F 13/534](#), [A61F 13/551](#), [A61F 13/56](#), [A61F 13/15747](#) take precedence)}
- M A61F 2013/4537 . . . . {with aeration ducts (~~with hose-like, tubular sealing barriers A61F 13/49473~~)}

**Project: MP12136 (A61H)**

- U A61H 2201/00 Characteristics of apparatus not provided for in the preceding codes**
- U A61H 2201/16 . Physical interface with patient
- U A61H 2201/1602 . . kind of interface, e.g. head rest, knee support or lumbar support
- M A61H 2201/1635 . . . Hand or arm, e.g. handle (~~hand-held, A61H 2201/0153; fore-arm support, A61H 2003/006~~)
- U A61H 2201/1657 . . Movement of interface, i.e. force application means
- M A61H 2201/1661 . . . Wobbling interface, e.g. Stewart platform or Hexapod (~~nutating movement, A61H 2001/0207~~)
- U A61H 2201/1683 . . Surface of interface
- M A61H 2201/1685 . . . interchangeable (~~modular devices, A61H 2201/0107~~)

**Project: MP12136 (A61K)**

**U A61K 39/00 Medicinal preparations containing antigens or antibodies (materials for immunoassay [G01N 33/53](#))**

**NOTES**

1. Groups [A61K 39/002](#) - [A61K 39/295](#) cover preparations containing protozoa, bacteria, viruses, or subunits thereof, e.g. membrane parts.
2. Preparation of antigen or antibody compositions is also classified in subclass [C12N](#), if the step of cultivating the microorganism is of interest.
3. Documents relating to new peptides, e.g. enzymes, or new DNA or RNA encoding for peptides and their use in medicinal preparations are classified in subclass [C07K](#) or in group [C12N 9/00](#) according to the peptides, with the appropriate indexing codes relating to their medical uses.
4. Documents relating to antibodies or DNA or RNA encoding for antibodies and their use in medicinal preparations are classified in group [C07K 16/00](#) or in group [C12N 9/0002](#) according to the antibodies, with the appropriate indexing codes relating to their medical uses.
5. Documents relating to new therapeutical uses of antibodies or DNA or RNA encoding for antibodies are classified in group [C07K 16/00](#) or in group [C12N 9/0002](#) according to the antibodies, with the appropriate indexing codes relating to their medical uses.
6. Documents relating to medicinal preparations containing different antibodies as active ingredients are classified in group [C07K 16/00](#) according to the different active antibodies, with the appropriate indexing codes relating to their medical uses. However, documents relating to medicinal preparations containing antibodies and other compounds as active ingredients are classified in groups [A61K 39/395](#) - [A61K 39/42](#), in association with symbol [A61K 2300/00](#) in Combination Sets.

**WARNING**

Group [A61K 39/00](#) is impacted by reclassification into group [A61K 39/46](#). Groups [A61K 39/00](#) and [A61K 39/46](#) should be considered in order to perform a complete search.

- U A61K 2039/54     • {characterised by the route of administration}
- U A61K 2039/541   • • {Mucosal route}
- M A61K 2039/544   • • • {to the airways ~~{intranasal A61K 2039/543}~~}
- U A61K 2039/60    • {characteristics by the carrier linked to the antigen}
- M A61K 2039/6006 • • {Cells ~~{recombinantly expressing antigens A61K 2039/5156, A61K 2039/523}~~}

**Project: MP12111 (A61K)**

**U A61K 2236/00 Isolation or extraction methods of medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof, e.g. traditional herbal medicine**

**NOTE**

If the isolation or extraction method is considered relevant, at least one symbol of [A61K 36/30](#) should always be given. The method can be further characterized by additional [A61K 36/10](#) and/or [A61K 36/50](#) symbols. The last place priority rule does not apply in this part of the scheme

- U A61K 2236/10    • Preparation or pretreatment of starting material
- M A61K 2236/19   • • involving fermentation using yeast, bacteria or both; enzymatic treatment ~~{fermentation or enzyme-using processes in general C12P}~~

**Project: MP12136 (A61K)**

- U A61K 2236/30      · Extraction of the material
- U A61K 2236/33      · · involving extraction with hydrophilic solvents, e.g. lower alcohols, esters or ketones
- M A61K 2236/331    · · · using water, e.g. cold water, infusion, tea, steam distillation, ~~decoction~~ or ~~decoction~~ (subcritical water extraction A61K 2236/37)

**Project: MP12111 (A61L)**

- U A61L 2430/00      **Materials or treatment for tissue regeneration**
- M A61L 2430/36      · for embolization or occlusion, e.g. vaso-occlusive compositions or devices (artificial blood vessels A61L 27/507)

**Project: MP12111 (A61M)**

- U A61M 5/00      **Devices for bringing media into the body in a subcutaneous, intra-vascular or intramuscular way; Accessories therefor, e.g. filling or cleaning devices, arm-rests (vaccination appliances for veterinary use A61D 1/025); tube connectors, tube couplings, valves or branch units specially adapted for medical use A61M 39/00; containers specially adapted for medical or pharmaceutical purposes A61J 1/00; combinations of vial and syringe for mixing or transferring their contents A61J 1/20; holders for containers for collecting, storing or administering blood or medical fluids A61J 1/16)**
  - U A61M 5/14      · Infusion devices, e.g. infusing by gravity; Blood infusion; Accessories therefor
  - U A61M 5/142      · · Pressure infusion, e.g. using pumps
- NOTE
- In this group, the following expression is used with the meaning indicated:
- "pressure infusion" includes powered injection working at a controlled rate
- M A61M 2005/14288 · · · {Infusion or injection simulation (simulation of surgery in general A61B 34/10; training for or simulation of use of injection or infusion devices G09B 23/285)}
  - U A61M 5/158      · · Needles {for infusions; Accessories therefor, e.g. for inserting infusion needles, or for holding them on the body}
  - M A61M 2005/1586 · · · {Holding accessories for holding infusion needles on the body (holding devices for catheters A61M 25/02)}
  - U A61M 25/00      **Catheters; Hollow probes (dilators A61M 29/00; {peritoneal catheters A61M 1/285; tracheal tubes A61M 16/04; for drainage A61M 27/00; for uterus, vagina or rectum A61M 31/00}; for measuring or testing A61B; {materials for catheters A61L 29/00})**
  - U A61M 25/0021    · {characterised by the form of the tubing (A61M 25/0054 takes precedence)}
  - U A61M 25/0023    · · {by the form of the lumen, e.g. cross-section, variable diameter}
  - U A61M 25/0026    · · · {Multi-lumen catheters with stationary elements (catheter assemblies comprising a catheter in combination with a guide tube, sheath or sleeve A61M 2025/0681; catheters comprising telescoping coaxial elements A61M 2025/0175)}
  - M A61M 2025/0034 · · · · {characterized by elements which are assembled, connected or fused, e.g. splittable tubes, outer sheaths creating lumina or separate cores (making of catheters A61M 25/0009)}

**Project: MP12136 (A61M)**

- U A61M 25/0043      · {characterised by structural features}

- M A61M 2025/0062 · · {having features to improve the sliding of one part within another by using lubricants or surfaces with low friction-~~(coatings A61M 2025/0046)~~}
- U A61M 25/0067 · {characterised by the distal end, e.g. tips ([A61M 25/0054](#), [A61M 25/04](#) take precedence; balloon catheters [A61M 25/10](#))}
- U A61M 25/0068 · · {Static characteristics of the catheter tip, e.g. shape, atraumatic tip, curved tip or tip structure}
- M A61M 2025/0073 · · · {Tip designed for influencing the flow or the flow velocity of the fluid, e.g. inserts for twisted or vortex flow-~~(general flow characteristics A61M 2206/10)~~}

**Project: MP12111 (A61M)**

- U A61M 25/01 · Introducing, guiding, advancing, emplacing or holding catheters ([A61M 25/10](#) takes precedence)
- U A61M 25/02 · · Holding devices, e.g. on the body
- M A61M 2025/0293 · · · {Catheter, guide wire or the like with means for holding, centering, anchoring or frictionally engaging the device within an artificial lumen, e.g. tube-~~(natural lumen, e.g. vessels A61M 25/04)~~}

**Project: MP12136 (A61M)**

- U A61M 25/10 · Balloon catheters ({[A61M 25/0125](#) takes precedence; embolectomy [A61B 17/22032](#); retractors [A61B 17/02](#);} inflatable balloons for placing stents or stent-grafts [A61F 2/958](#) {; stomach balloons for treatment of obesity [A61F 5/0003](#); oesophageal tubes [A61J 15/00](#))}
- U A61M 2025/1043 · · {with special features or adapted for special applications}
- M A61M 2025/1059 · · · {having different inflatable sections mainly depending on the response to the inflation pressure, e.g. due to different material properties-~~(with different compartments A61M 2025/1072)~~}

- U A61M 39/00 Tubes, tube connectors, tube couplings, valves, access sites or the like, specially adapted for medical use (for respiratory devices, e.g. tracheal tubes [A61M 16/00](#); artificial heart valves [A61F 2/24](#))**

WARNING

Not complete, see [A61J 1/14](#)

- U A61M 39/02 · Access sites
- U A61M 39/0247 · · {Semi-permanent or permanent transcutaneous or percutaneous access sites to the inside of the body (peritoneal dialysis catheters [A61M 1/285](#); tracheostomy devices [A61M 16/0465](#); measuring pressure within the body [A61B 5/03](#); colostomy devices [A61F 5/445](#); gastrotomy feeding tubes [A61J 15/0015](#); means for fixing a feeding tube outside of the body [A61J 15/0053](#))}
- M A61M 2039/027 · · · {having a particular valve, seal or septum-~~(septum A61M 2039/0036)~~}

**Project: MP12111 (A61M)**

- U A61M 39/08 · Tubes; Storage means specially adapted therefor
- M A61M 2039/085 · · {external enteral feeding tubes-~~(feeding tubes inside the stomach or intestines A61J 15/00)~~}

- M A61M 2202/00 Special media to be introduced, removed or treated-~~(applying radioactive material A61N 5/1028)~~**

NOTE

The classification symbols [A61M 2202/0007](#) - [A61M 2202/0092](#) are not listed first when assigned to patent documents.

They are used only when associated to other subgroups of [A61M 2202/00](#) in combination sets

Example:

[A61M 2202/0417](#), [A61M 2202/0057](#)

### Project: MP12136 (A61M)

- U A61M 2202/04 · Liquids
- U A61M 2202/0413 · · Blood
- M A61M 2202/0439 · · · White blood cells; Leucocytes (~~lymphocytes A61M 2202/0407~~)
- M A61M 2202/0445 · · · Proteins (~~immunoglobulin A61M 2202/0417; beta-2-microglobulin A61M 2202/0421; thrombin A61M 2202/0425; haemoglobin A61M 2202/0433~~)

### Project: MP12111 (A61M)

- U A61M 2202/0468 · · non-physiological
- M A61M 2202/048 · · · Anaesthetics (~~see also A61M 19/00~~)
- U A61M 2205/00 General characteristics of the apparatus**
- U A61M 2205/70 · with testing or calibration facilities
- M A61M 2205/705 · · Testing of filters for leaks (~~blood in dialysate A61M 1/1692~~)

### Project: MP12111 (A61N)

- U A61N 5/00 Radiation therapy (ultrasound therapy [A61N 7/00](#); devices or apparatus applicable to both therapy and diagnosis [A61B 6/00](#))**
- U A61N 5/10 · X-ray therapy; Gamma-ray therapy; Particle-irradiation therapy ([A61N 5/01](#) takes precedence)
- U A61N 5/1048 · · {Monitoring, verifying, controlling systems and methods}
- U A61N 5/1049 · · · {for verifying the position of the patient with respect to the radiation beam}
- M A61N 2005/1051 · · · · {using an active marker (~~markers in general A61B 90/39~~)}

### Project: MP12136 (A63B)

- M A63B 2208/00 Characteristics or parameters related to the user or player (~~measuring physical characteristics of the user A63B 2230/00~~)**

### Project: MP12111 (A63B)

- U A63B 2208/02 · posture
- M A63B 2208/0295 · · on hands and feet (~~for push-ups A63B 23/1236~~)

### Project: MP12136 (A63B)

- U A63B 2243/00 Specific ball sports not provided for in [A63B 2102/00](#) - [A63B 2102/38](#)**
- M A63B 2243/0025 · Football (~~American football A63B 2243/007~~)

### Project: MP12136 (A63F)

- U A63F 3/00 Board games; Raffle games (racing games, traffic games, or obstacle games characterised by figures moved by action of the players [A63F 9/14](#))**
- U A63F 3/00003 · {Types of board games (chess [A63F 3/02](#); educational board games [A63F 3/04](#))}
- U A63F 3/00063 · · {Board games concerning economics or finance, e.g. trading}
- M A63F 2003/00066 · · · {with play money (~~with real coins or paper money A63F 2250/13~~)}

- U A63F 3/00173 · {Characteristics of game boards, alone or in relation to supporting structures or playing piece}
- U A63F 3/00214 · · {Three-dimensional game boards}
- M A63F 2003/00223 · · · {shaped as a container into which playing pieces may enter ~~(box or container for board games A63F 2003/00943)~~}
- U A63F 3/0023 · · {Foldable, rollable, collapsible or segmented boards ([A63F 3/027](#) takes precedence)}
- M A63F 2003/00233 · · · {with one fold or hinge ~~(shaped as a book A63F 2003/00299; convertible into a suitcase A63F 2003/0094)~~}
- M A63F 2003/00255 · · · {playable during travel ~~(storing or transporting an interrupted jig-saw puzzle game A63F 2009/105)~~}
- M A63F 2003/00258 · · · {rollable, flexible or deformable board ~~(shaped as an endless belt A63F 2003/00321; flexible rim A63F 2003/00504)~~}

**Project: MP12111 (A63F)**

- U A63F 3/00261 · · {Details of game boards, e.g. rotatable, slidable or replaceable parts, modular game boards, vertical game boards}
- U A63F 2003/00264 · · · {with rotatable or tiltable parts}
- M A63F 2003/00309 · · · · {with stopping means ~~(for roulette A63F 5/0011)~~}
- M A63F 2003/00463 · · · {Details of the playing field ~~(shape of the board A63F 3/00176; changing the size A63F 2003/00971)~~}

**Project: MP12136 (A63F)**

- U A63F 3/00697 · {Playing pieces}
- U A63F 2003/00845 · · {Additional features of playing pieces; Playing pieces not assigned to one particular player}
- M A63F 2003/00864 · · · {Markers, e.g. indicating the spot of a previous move ~~(score marking on play piece A63F 2011/0062)~~}
- U A63F 3/00895 · {Accessories for board games ([A63F 3/00697](#) takes precedence; game accessories of general use [A63F 11/00](#))}
- U A63F 2003/00943 · · {Box or container for board games}
- M A63F 2003/00946 · · · {with a storage for playing pieces next to the playing field ~~(rim with storing space A63F 2003/00514)~~}

**Project: MP12111 (A63F)**

- U A63F 3/04 · Geographical or like games {; Educational games (educational appliances in general [G09B](#))}
- U A63F 3/0457 · · {concerning science or technology, e.g. geology, chemistry, statistics, computer flow charts, radio, telephone ([A63F 3/0478](#) takes precedence; other games concerning science or technology [A63F 9/0076](#))}
- M A63F 2003/046 · · · {Mathematics ~~(arithmetics A63F 3/0415)~~}

**Project: MP12136 (A63F)**

- U A63F 9/00 · **Games not otherwise provided for (aspects of games using an electronically generated display having two or more dimensions showing representations related to the game [A63F 13/00](#) {; miscellaneous sporting games [A63B 67/00](#))}**
- U A63F 9/001 · {Games or toys connected to, or combined with, other objects; Objects with a second use as a toy or game}
- U A63F 2009/0012 · · {the other object being a container or part thereof}

- M A63F 2009/0013 . . . {Bottles ~~(cups A63F 2009/0053)~~}
- U A63F 9/24 . {Electric games;} Games using electronic circuits not otherwise provided for {(video games [A63F 13/00](#); computerized gaming systems [G07F 17/32](#))}
- U A63F 2009/2448 . . {Output devices}
- U A63F 2009/245 . . . {visual}
- U A63F 2009/2461 . . . . {Projection of a two-dimensional real image}
- M A63F 2009/2469 . . . . {of a contour ~~(shadow shows A63J 2019/003)~~}

**Project: MP12136 (A63H)**

- U A63H 27/00 Toy aircraft; Other flying toys (toys with parachutes [A63H 33/20](#))**
- U A63H 27/10 . Balloons (connection of valves to inflatable elastic bodies [B60C 29/00](#); {other than toy aspects [B64B 1/40](#)})
- M A63H 2027/1075 . . {Special shapes or constructions ~~(for aircraft type balloons A63H 2027/1066)~~}

**Project: MP12187 (B01D)**

- U B01D 2201/00 Details relating to filtering apparatus**
- M B01D 2201/34 . Seals or gaskets for filtering elements ~~(for removable closures, lids, caps or filter heads B01D 2201/304)~~

**Project: MP12186 (B01D)**

- M B01D 2201/64 . Filters having floating elements ~~(floating filters B01D 35/05)~~
- U B01D 2202/00 Details concerning evaporation, distillation or condensation**
- M B01D 2202/10 . Use of a microdevice for separation ~~(microreactors B01J 19/00)~~
- U B01D 2221/00 Applications of separation devices**
- M B01D 2221/04 . Separation devices for treating liquids from earth drilling, mining ~~(separation of well effluents E21B 43/34, flotation in general B03D 1/00)~~
- M B01D 2221/10 . Separation devices for use in medical, pharmaceutical or laboratory applications, e.g. separating amalgam from dental treatment residues ~~(apparatus for dental treatment A61C 17/065)~~
- M B01D 2221/12 . Separation devices for treating rain or storm water ~~(storm water treatment E03F)~~
- U B01D 2239/00 Aspects relating to filtering material for liquid or gaseous fluids**
- U B01D 2239/02 . Types of fibres, filaments or particles, self-supporting or supported materials
- M B01D 2239/025 . . comprising nanofibres ~~(apparatus incorporating such gas filtering material see B01D 46/546)~~
- U B01D 2239/04 . Additives and treatments of the filtering material
- M B01D 2239/0407 . . comprising particulate additives, e.g. adsorbents ~~(apparatus incorporating gas filtering material B01D 46/0036)~~
- M B01D 2239/0435 . . Electret ~~(apparatus incorporating such gas filtering material B01D 46/0032)~~
- M B01D 2239/0442 . . Antimicrobial, antibacterial, antifungal additives ~~(apparatus incorporating such gas filtering material B01D 46/0028)~~
- M B01D 2239/0457 . . Specific fire retardant or heat resistant properties ~~(apparatus incorporating such gas filtering material B01D 46/0093)~~

**Project: MP12187 (B01D)**

- U B01D 2239/06 . Filter cloth, e.g. knitted, woven non-woven; self-supported material

- M B01D 2239/065 · · More than one layer present in the filtering material ~~(apparatus incorporating such gas filtering material B01D 2275/10)~~
- U B01D 2239/069 · · Special geometry of layers
- M B01D 2239/0695 · · · Wound layers ~~(apparatus incorporating such gas filtering material B01D 2275/105)~~
- U B01D 2239/12 · · Special parameters characterising the filtering material
- M B01D 2239/1208 · · Porosity ~~(apparatus incorporating such gas filtering material B01D 2275/30-B01D 2275/307)~~

**Project: MP12186 (B01D)**

- U B01D 2247/00 Details relating to the separation of dispersed particles from gases, air or vapours by liquid as separating agent**
- M B01D 2247/04 · · Regenerating the washing fluid ~~(recovering paint spray booth B05B 14/462)~~
- M B01D 2247/10 · · Means for removing the washing fluid dispersed in the gas or vapours ~~(separating dispersed particles from gases by gravity, inertia or centrifugal forces B01D 45/00)~~

**Project: MP12187 (B01D)**

- U B01D 2251/00 Reactants**
- U B01D 2251/10 · · Oxidants
- M B01D 2251/108 · · Halogens or halogen compounds ~~(hydrogen halides B01D 2251/50)~~
- U B01D 2252/00 Absorbents, i.e. solvents and liquid materials for gas absorption**
- M B01D 2252/10 · · Inorganic absorbents ~~(chemical reactants B01D 2251/00)~~
- U B01D 2255/00 Catalysts**
- M B01D 2255/20 · · Metals or compounds thereof ~~(noble metals B01D 2255/10)~~

**Project: MP12186 (B01D)**

- U B01D 2259/00 Type of treatment**
- M B01D 2259/12 · · Methods and means for introducing reactants ~~(for catalytic processes B01D 53/90)~~

**Project: MP12187 (B01D)**

- U B01D 2259/45 · · Gas separation or purification devices adapted for specific applications
- M B01D 2259/455 · · · for transportable use ~~(portable devices B01D 2259/4541)~~

**Project: MP12186 (B01D)**

- U B01D 2279/00 Filters adapted for separating dispersed particles from gases or vapours specially modified for specific uses**
- M B01D 2279/50 · · for air conditioning ~~(air-conditioning systems comprising filters F24F 8/10)~~
- M B01D 2279/55 · · for cleaning appliances, e.g. suction cleaners ~~(suction cleaners comprising filters A47L 9/10)~~
- M B01D 2279/60 · · for the intake of internal combustion engines or turbines ~~(intake systems for vehicles comprising filters F02M 35/024)~~
- M B01D 2279/65 · · for the sterilisation of air ~~(disinfection, sterilisation or deodorization of air A61L 9/00)~~

**Project: MP12186 (B01J)**

- U B01J 2219/00**      **Chemical, physical or physico-chemical processes in general; Their relevant apparatus**
- U B01J 2219/00781      · Aspects relating to microreactors
- M B01J 2219/00889      · · Mixing (~~micromixers B01F 33/30~~)

**Project: MP12187 (B01J)**

- U B01J 2220/00**      **Aspects relating to sorbent materials**
- U B01J 2220/50      · Aspects relating to the use of sorbent or filter aid materials
- M B01J 2220/64      · · In a syringe, pipette, e.g. tip or in a tube, e.g. test-tube or u-shape tube (~~in columns B01J 2220/58~~)
- U B01J 2229/00**      **Aspects of molecular sieve catalysts not covered by [B01J 29/00](#)**
- U B01J 2229/30      · After treatment, characterised by the means used
- M B01J 2229/34      · · Reaction with organic or organometallic compounds (~~with organo-silicium compounds B01J 2229/32~~)

- U B01J 2231/00**      **Catalytic reactions performed with catalysts classified in [B01J 31/00](#)**

NOTE

In this group indexing is done according to the specific catalytic reaction. In case of multiple catalytic activities only those are indexed which are specifically exemplified, i.e. by ways of worked examples, specific claims or explicit alternatives therein.

- U B01J 2231/10      · Polymerisation reactions involving at least dual use catalysts, e.g. for both oligomerisation and polymerisation
- M B01J 2231/14      · · Other (co) polymerisation, e.g. of lactides, ~~epoxides~~ *or epoxides* ("ROMP", i.e. ~~ring-opening metathesis polymerisation B01J 2231/54~~)
- U B01J 2231/70      · Oxidation reactions, e.g. epoxidation, (di)hydroxylation, dehydrogenation and analogues
- M B01J 2231/76      · · Dehydrogenation (~~transfer-dehydrogenation of CH-XH B01J 2231/641; transfer-dehydrogenation of -CHRCHR- via C-H activation B01J 2231/46~~)

- U B01J 2531/00**      **Additional information regarding catalytic systems classified in [B01J 31/00](#)**

NOTE

In this group the term "Metals" refers to the central metal in the coordination complexes ( [B01J 31/16](#) - [B01J 31/24](#) ), as used for the respective catalytic reaction, excluding carboxylates (see [B01J 31/04](#) ) and other simple salts or organometallic compounds (see [B01J 31/12](#) ). As to components, only those metals or solvents are indexed which are explicitly mentioned in the claims or the worked examples. As to compositional aspects, only those are provided for in the scheme below and are intended to be indexed, which provide additional information regarding the complexes and/or ligands classified in [B01J 31/16](#) - [B01J 31/24](#); indexing codes [B01J 2531/0286](#) - [B01J 2531/0297](#) are only used if these aspects are described as essential. Indexing codes [B01J 2531/0213](#) - [B01J 2531/0277](#) characterise the complexes on the basis of bond-type (linkage-type) thereby specifying the structural geometry of the complexes, while classification entries [B01J 31/16](#) - [B01J 31/24](#) are purely compositional subdivisions. The individual metals, the compositional aspects of complexes used and the solvents are indexed for each explicit alternative, according to the guideline above

- U B01J 2531/02      · Compositional aspects of complexes used, e.g. polynuclearity

- U B01J 2531/0269 · · Complexes comprising ligands derived from the natural chiral pool or otherwise having a characteristic structure or geometry
- M B01J 2531/028 · · · comprising affinity tags, e.g. for recovery ~~(self-associating or modular catalysts B01J 2531/0291)~~

**Project: MP12027 (B03C)**

- M B03C **MAGNETIC OR ELECTROSTATIC SEPARATION OF SOLID MATERIALS FROM SOLID MATERIALS OR FLUIDS; SEPARATION BY HIGH-VOLTAGE ELECTRIC FIELDS (separating isotopes B01D 59/00; combinations of magnetic or electrostatic separation with separation of solids by other means B03B, B07B)**

WARNING

{In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.}

- U B03C 1/00 **Magnetic separation**
- M B03C 1/002 · {High gradient magnetic separation (*acting directly on the substance being separated B03C 1/025; acting on the medium containing the substance being separated B03C 1/32*)}
- U B03C 3/00 **Separating dispersed particles from gases or vapour, e.g. air, by electrostatic effect**
- U B03C 3/02 · Plant or installations having external electricity supply
- M B03C 3/025 · · {Combinations of electrostatic separators, e.g. in parallel or in series, stacked separators; *or* dry-wet separator combinations}
- U B03C 3/34 · Constructional details or accessories or operation thereof
- U B03C 3/40 · · Electrode constructions
- U B03C 3/45 · · · Collecting-electrodes
- M B03C 3/49 · · · · tubular ~~{{(B03C 3/455 takes precedence)}}~~
- U B03C 3/88 · · Cleaning-out collected particles
- M B03C 3/885 · · · {by travelling or oscillating electric fields, e.g. electric field curtains ~~(electrostatic non-mechanical conveyors in general B65G 54/02)~~}
- M B03C 5/00 **Separating dispersed particles from liquids by electrostatic effect (~~{{floculation or agglomeration of electric particles induced by electric field B01D 21/0009;}}~~ combined with centrifuges B04B 5/10)**
- NOTE
- {In this group, the following term is used with the meaning indicated:
  - "separating" ~~means dimensional modifications of particle-liquid distributions; e.g. particle~~ *includes separation of particles from liquids as is conventionally understood, as well as the* immobilisation, caging, ~~translational~~*translation* or rotational motion *of particles*
 }
- M B03C 5/005 · {Dielectrophoresis, i.e. dielectric particles migrating towards the region of highest field strength ~~(B03C 5/02 takes precedence; electrophoresis B01D 57/02)~~}
- U B03C 7/00 **Separating solids from solids by electrostatic effect**
- M B03C 7/006 · {Charging without electricity supply, e.g. by tribo-electricity; *or* pyroelectricity}
- U B03C 2201/00 **Details of magnetic or electrostatic separation**
- M B03C 2201/02 · ~~Electro-statically separating~~ *Electrostatic separation of* liquids from liquids

- M B03C 2201/10 · Ionising electrode ~~has multiple~~ *with two or more* serrated ends or ~~parts~~ *sides*
- M B03C 2201/16 · Magnetic ~~separating-gases-form~~ *separation of gases from* gases, e.g. oxygen from air
- M B03C 2201/20 · Magnetic separation ~~whereby the particles to be separated are in solid form of~~ *bulk or dry particles in mixtures*
- M B03C 2201/22 · characterised by the ~~magnetical field, special~~ *magnetic field, e.g. its* shape or generation
- M B03C 2201/24 · for measuring or calculating ~~parameters, efficiency, etc. of parameters, e.g.~~ *efficiency*
- M B03C 2201/26 · for use in medical *or biological* applications
- M B03C 2201/28 · Parts being ~~easily-removable~~ *designed to be removed* for cleaning purposes

**Project: MP12186 (B03D)**

- M B03D 2201/00 **Specified effects produced by the flotation agents** ~~(use of substances as emulsifying, wetting, dispersing or foam-producing agents C09K 23/00)~~
- M B03D 2203/00 **Specified materials treated by the flotation agents; specified** *Specified* applications ~~(paper pulp processing D21F 1/70, de-inking of paper pulp D21B 1/325)~~
- M B03D 2203/008 · Water purification, e.g. for process water recycling ~~(waste water treatment C02F 1/24)~~

**Project: RP11901-F (B05B)**

- M B05B 11/00 **Single-unit hand-held apparatus in which flow of contents is produced by the muscular force of the operator at the moment of use**  
**WARNING**  
Group B05B 11/00 is impacted by reclassification into group B05B 11/01. Groups B05B 11/00 and B05B 11/01 should be considered in order to perform a complete search.
- U B05B 11/0005 · {Components or details (of single units wherein the flow is effected by a pump [B05B 11/1042](#))}
- U B05B 11/0062 · · {Outlet valves actuated by the pressure of the fluid to be sprayed (fluid-actuated pump outlet valve arrangements [B05B 11/1016](#), [B05B 11/1022](#), [B05B 11/1033](#), [B05B 11/1036](#), [B05B 11/104](#), [B05B 11/1064](#), [B05B 11/1097](#))}
- U B05B 11/0064 · · · {Lift valves ([B05B 11/007](#) takes precedence)}
- M B05B 11/0067 · · · · {having a valve seat located downstream the valve element ~~(take precedence)~~}
- M B05B 11/01 · characterised by the means producing the flow  
**WARNING**  
Group B05B 11/01 is incomplete pending reclassification of documents from group B05B 11/00. Groups B05B 11/00 and B05B 11/01 should be considered in order to perform a complete search.

**Project: MP12187 (B23B)**

- U B23B 2200/00 **Details of cutting inserts**
- U B23B 2200/08 · Rake or top surfaces
- M B23B 2200/081 · · with projections ~~(chip-breaking projections in general B23B 2200/321)~~
- U B23B 2200/086 · · with one or more grooves

- M B23B 2200/087 . . . for chip breaking (~~chip breaking depressions in general B23B 2200/323, multiple chip breaking grooves B23B 2200/325~~)
- U B23B 2200/32 . Chip breaking or chip evacuation
- M B23B 2200/321 . . by chip breaking projections (~~with projections on rake surface B23B 2200/081~~)
- M B23B 2200/323 . . by chip breaking depressions (~~with one or more grooves on top surface for chip breaking B23B 2200/087, with multiple chip breaking grooves B23B 2200/325~~)
- M B23B 2200/325 . . by multiple chip-breaking grooves (~~with one or more grooves on top surface for chip breaking B23B 2200/087, with chip breaking depression B23B 2200/323~~)
- U B23B 2200/36 . Other features of cutting inserts not covered by [B23B 2200/04](#) - [B23B 2200/32](#)
- M B23B 2200/3627 . . Indexing (~~with grooves on bottom surfaces B23C 2200/165, with polygonal bottom surfaces B23B 2200/166, with star form bottom surfaces B23C 2200/167~~)
- U B23B 2200/3645 . . Lands, i.e. the outer peripheral section of the rake face
- M B23B 2200/3654 . . . being variable (~~negative lands of variable width B23B 2200/3672~~)
- M B23B 2200/3663 . . . having negative cutting angles (~~with bevelled cutting edge B23C 2200/243~~)
- M B23B 2200/3672 . . . . being variable (~~lands with variable width B23B 2200/3654~~)
- U B23B 2210/00 Details of turning tools**
- M B23B 2210/12 . Tools comprising weakened spot on the tool at a preferred breakage location (~~break points on shanks of tools B23B 2231/0212~~)
- U B23B 2220/00 Details of turning, boring or drilling processes**
- M B23B 2220/24 . Finishing (~~roughing and finishing B23B 2220/445~~)
- U B23B 2222/00 Materials of tools or workpieces composed of metals, alloys or metal matrices**
- M B23B 2222/14 . Cast iron (~~iron B23B 2222/44~~)
- M B23B 2222/32 . Details of high-speed steel (~~stainless steel B23B 2222/80, steel B23B 2222/84~~)
- M B23B 2222/44 . Iron (~~cast iron B23B 2222/14~~)
- M B23B 2222/80 . Stainless steel (~~high speed steel B23B 2222/32, steel B23B 2222/84~~)
- M B23B 2222/84 . Steel (~~high speed steel B23B 2222/32, stainless steel B23B 2222/80~~)

**Project: MP12186 (B23B)**

- U B23B 2226/00 Materials of tools or workpieces not comprising a metal**
- M B23B 2226/45 . Glass (~~turning glass B28D 1/16, drilling glass B28D 1/14~~)
- M B23B 2226/75 . Stone, rock or concrete (~~working of stone B28D~~)

**Project: MP12187 (B23B)**

- U B23B 2231/00 Details of chucks, toolholder shanks or tool shanks**
- U B23B 2231/02 . Features of shanks of tools not relating to the operation performed by the tool
- M B23B 2231/0212 . . Shanks of tools having a reduced cross section at a position where breakage of the tool is preferred (~~break points on tools not in shank area B23B 2210/12, shanks with reduced cross sections in general B23B 2231/0252~~)
- M B23B 2231/0252 . . Shanks having a section of reduced diameter (~~to provide a preferred breaking point B23B 2231/0212~~)
- M B23B 2231/026 . . Grooves (~~keyways B23B 2231/0276~~)
- M B23B 2231/0276 . . Keyways (~~axial grooves B23B 2231/0264~~)

- U B23B 2231/20 · Collet chucks
- U B23B 2231/201 · · Operating surfaces of collets, i.e. the surface of the collet acted on by the operating means
- M B23B 2231/2013 · · · Non-cylindrical ~~(polygonal B23B-2231/2016)~~

**Project: MP12186 (B23B)**

- M B23B 2231/26 · Detection of clamping ~~(in general B23Q 17/006)~~

**Project: MP12187 (B23B)**

- M B23B 2231/28 · Dust covers ~~(nose pieces in chucks B23B 2231/44, dust covers for turning, boring or drilling in general B23B 2260/058)~~
- M B23B 2231/44 · Nose pieces ~~(dust covers in chucks B23B 2231/28, dust covers for turning, boring or drilling in general B23B 2260/058)~~

**Project: MP12186 (B23B)**

- U B23B 2240/00 Details of connections of tools or workpieces**
- M B23B 2240/28 · Shrink-fitted connections, i.e. using heating and cooling to produce interference fits ~~(shrink fits chucks B23B 31/1179)~~
- U B23B 2247/00 Details of drilling jigs**
- M B23B 2247/02 · Jigs for drilling spectacles ~~(machines for drilling spectacle lenses B28D 1/143)~~

**Project: MP12187 (B23B)**

- U B23B 2260/00 Details of constructional elements**
- U B23B 2260/048 · Devices to regulate the depth of cut
- M B23B 2260/0482 · · Depth controls, e.g. depth stops ~~(stops B23B 2260/12)~~
- M B23B 2260/0487 · · Depth indicators ~~(indication scales B23B 2260/088)~~
- M B23B 2260/058 · Dust covers ~~(dust covers in chucks B23B 2231/28, nose pieces in chucks B23B 2231/44)~~
- M B23B 2260/12 · Stops ~~(depth controls B23B 2260/0482)~~
- M B23B 2260/132 · Serrations ~~(cutting inserts with serrated bottom surfaces B23B 2200/167)~~
- M B23B 2260/134 · Spacers or shims ~~(shims for supporting cutting inserts B23B 2205/16)~~
- U B23B 2270/00 Details of turning, boring or drilling machines, processes or tools not otherwise provided for**
- M B23B 2270/04 · Use of centrifugal force ~~(compensating centrifugal force B23B 2250/08)~~
- M B23B 2270/22 · Externally located features, machining or gripping of external surfaces ~~(machining or gripping of both internal and external surfaces B23B 2270/205)~~
- M B23B 2270/30 · Chip guiding or removal ~~(use of suction B23B 2270/62, drilling tools with provision for suction B23B 2251/68)~~
- M B23B 2270/38 · Using magnetic fields ~~(magnets B23B 2260/10)~~
- M B23B 2270/62 · Use of suction ~~(suction pads or vacuum cups B23B 2260/118, drilling tools with provision for suction B23B 2251/68, chip removal B23B 2270/30)~~

**Project: MP12187 (B23C)**

- U B23C 2200/00 Details of milling cutting inserts**
- U B23C 2200/08 · Rake or top surfaces
- M B23C 2200/081 · · with projections ~~(chip breaking projections in general B23C 2200/323)~~
- U B23C 2200/16 · Supporting or bottom surfaces

- M B23C 2200/168 · with features related to indexing ~~(with lines to permit indexing of round inserts B23C-2200/363)~~
- U B23C 2200/32 · Chip breaking or chip evacuation
- M B23C 2200/323 · by chip-breaking projections ~~(with projection on top surface B23C-2200/081)~~
- U B23C 2210/00 Details of milling cutters**
- M B23C 2210/16 · Fixation of inserts or cutting bits in the tool ~~(details of connections B23C-2240/00)~~
- M B23C 2210/24 · Overall form of the milling cutter ~~(angles B23C-2210/04; top or side views of cutting edges B23C-2210/08; cross sections of cutting edges B23C-2210/12)~~
- U B23C 2220/00 Details of milling processes**
- M B23C 2220/28 · Finishing ~~(roughing and finishing B23C-2220/605)~~
- U B23C 2222/00 Materials of tools or workpieces composed of metals, alloys or metal matrices**
- M B23C 2222/32 · Details of high-speed steel ~~(steel B23C-2222/84)~~
- M B23C 2222/84 · Steel ~~(details of high-speed steel B23C-2222/32)~~

**Project: MP12186 (B23C)**

- U B23C 2226/00 Materials of tools or workpieces not comprising a metal**
- M B23C 2226/45 · Glass ~~(milling glass B28D-1/18)~~
- M B23C 2226/75 · Stone, rock or concrete ~~(milling stone or like materials B28D-1/18)~~

**Project: MP12187 (B23C)**

- M B23C 2230/00 **Details of chip evacuation** ~~(chip evacuation in cutting inserts B23C-2200/32)~~
- M B23C 2240/00 **Details of connections of tools or workpieces** ~~(fixation of the cutting insert or bit in the tool B23C-2210/16)~~
- U B23C 2250/00 Compensating adverse effects during milling**
- M B23C 2250/04 · Balancing the cutter ~~(vibration damping B23C-2250/16)~~
- M B23C 2250/16 · Damping vibrations ~~(balancing B23C-2250/04)~~

**Project: MP12186 (B23C)**

- U B23C 2260/00 Details of constructional elements**
- M B23C 2260/56 · Lasers ~~(improving machinability with laser whilst milling B23P-25/003)~~

**Project: MP12187 (B23C)**

- U B23C 2270/00 Details of milling machines, milling processes or milling tools not otherwise provided for**
- M B23C 2270/04 · Use of centrifugal force ~~(compensation of effect of centrifugal force B23C-2250/08)~~

**Project: MP12186 (B23D)**

- U B23D 2277/00 Reaming tools**
- U B23D 2277/24 · Materials of the tool or the intended workpiece, methods of applying these materials
- M B23D 2277/2407 · Applied by chemical vapour deposition [CVD] processes ~~(coating by chemical vapour deposition in general C23C-16/00)~~

- M B23D 2277/2414 · · Applied by physical vapour deposition [PVD] processes (~~coating by physical vapour deposition in general C23C 14/00~~)

**Project: MP12186 (B23G)**

- U B23G 2200/00** **Details of threading tools**
- M B23G 2200/08 · Threading tools with adjustable elements (~~manually operated thread cutting devices with means for adjusting the threading tool B23G 1/28~~)

**Project: MP12187 (B23K)**

- U B23K 2103/00** **Materials to be soldered, welded or cut**
- U B23K 2103/50 · {Inorganic material, e.g. metals, not provided for in [B23K 2103/02](#) – [B23K 2103/26](#)}
- M B23K 2103/56 · · {semiconducting (~~semiconducting devices B23K 2101/40~~)}

**Project: MP12186 (B27K)**

- U B27K 2200/00** **Wooden materials to be treated**
- M B27K 2200/10 · Articles made of particles or fibres consisting of wood or other lignocellulosic material (~~wood composite materials made of particles or fibres B27N~~)
- M B27K 2200/30 · Multilayer articles comprising wood (~~multilayered products B32B~~)
- U B27K 2240/00** **Purpose of the treatment**
- M B27K 2240/10 · Extraction of components naturally occurring in wood, cork, straw, cane or reed (~~solvent extraction B01D 11/00~~)
- M B27K 2240/15 · Decontamination of previously treated wood (~~decontamination in general A62D 3/00~~)
- M B27K 2240/20 · Removing fungi, molds or insects (~~biocidal compositions A01N; sterilization or disinfection of wood A61L~~)
- M B27K 2240/30 · Fireproofing (~~fireproofing materials in general C09K 21/00~~)

**Project: MP12186 (B29C)**

- U B29C 33/00** **Moulds or cores; Details thereof or accessories therefor**
- U B29C 33/38 · characterised by the material or the manufacturing process ([B29C 33/44](#) takes precedence)
- U B29C 33/3842 · · {Manufacturing moulds, e.g. shaping the mould surface by machining}
- M B29C 2033/385 · · · {by laminating a plurality of layers (~~moulds built up by stacking mould elements, e.g. plates, blocks, rods, in general B29C 33/301, tyre moulds made of a plurality of laminations B29D 2030/0609~~)}
- U B29C 35/00** **Heating, cooling or curing, e.g. crosslinking or vulcanising; Apparatus therefor (moulds with incorporated heating or cooling means [B29C 33/02](#) ; thermal after-treatment of shaped articles [B29C 71/02](#)); curing devices for plastics dental prostheses [A61C 13/14](#); before moulding [B29B 13/00](#))**
- U B29C 35/02 · Heating or curing, e.g. crosslinking or vulcanizing {during moulding, e.g. in a mould}{cold vulcanisation [B29C 35/18](#) {; vulcanising tyres, presses therefor [B29D 30/0601](#)}}
- M B29C 2035/0283 · · {Thermal pretreatment of the plastics material (~~thermal after-treatment B29C 71/02~~)}
- U B29C 43/00** **Compression moulding, i.e. applying external pressure to flow the moulding material; Apparatus therefor {(by liberation of internal stresses [B29C 61/006](#))}**

- U B29C 43/02 · of articles of definite length, i.e. discrete articles {(B29C 35/0227 takes precedence)}
- U B29C 43/021 · · {characterised by the shape of the surface}
- M B29C 2043/022 · · · {having locally depressed lines, e.g. hinges ~~(single grooves B29C 37/0057; folding lines B29C 53/06; parting line of the mould parts B29C 33/005)~~}
- U B29C 45/00** **Injection moulding, i.e. forcing the required volume of moulding material through a nozzle into a closed mould; Apparatus therefor (injection blow-moulding B29C 49/06)**
- U B29C 45/0025 · {Preventing defects on the moulded article, e.g. weld lines, shrinkage marks (preventing defects on the preformed parts or layers B29C 45/14836)}
- M B29C 2045/0044 · · {expelling moulding material outside the mould cavity at the weld line location ~~(moulds with overflow cavities B29C 45/2669)~~}
- U B29C 45/0053 · {combined with a final operation, e.g. shaping (injection-compression moulding B29C 45/561)}
- U B29C 45/006 · · {Joining parts moulded in separate cavities}
- M B29C 2045/0072 · · · {the parts to be joined being moulded in a stack mould ~~(stack moulds in general B29C 45/32)~~}
- M B29C 2045/0077 · · {removing burrs or flashes ~~(in general B29C 37/02)~~}

**Project: MP12187 (B29C)**

- U B29C 45/14 · incorporating preformed parts or layers, e.g. injection moulding around inserts or for coating articles {(B29C 45/1671 takes precedence)}
- M B29C 2045/14852 · · {incorporating articles with a data carrier, e.g. chips ~~(memory cards, chip cards B29L 2017/006)~~}

**Project: MP12186 (B29C)**

- U B29C 2045/1486 · · {Details, accessories and auxiliary operations}
- M B29C 2045/14934 · · · {Preventing penetration of injected material between insert and adjacent mould wall ~~(sealing means between mould and article B29C 45/14418)~~}
- U B29C 45/16 · Making multilayered or multicoloured articles {(B29C 45/0062 takes precedence; feeding colouring materials into the injection unit B29C 45/1816)}
- M B29C 2045/1698 · · {multicoloured articles moulded in one step ~~(non-uniform dispersion of colours B29C 45/1634)~~}
- U B29C 45/17 · Component parts, details or accessories; Auxiliary operations
- U B29C 45/1703 · · {Introducing an auxiliary fluid into the mould (B29C 45/1701 takes precedence)}
- U B29C 45/174 · · · {Applying a pressurised fluid to the outer surface of the injected material inside the mould cavity, e.g. for preventing shrinkage marks}
- M B29C 2045/1741 · · · · {Seals preventing pressurized fluid to escape from the mould cavity ~~(mould seals B29C 45/2608)~~}
- U B29C 2045/1784 · · {Component parts, details or accessories not otherwise provided for; Auxiliary operations not otherwise provided for}
- U B29C 2045/1792 · · · {Machine parts driven by an electric motor, e.g. electric servomotor}
- M B29C 2045/1793 · · · · {by an electric linear motor ~~(linear motors in general H02K 41/02)~~}

**Project: MP12187 (B29C)**

- M B29C 2045/1794 · · · · {by a rotor or directly coupled electric motor, e.g. using a tubular shaft motor ~~(for driving axially movable screws B29C 2045/5024)~~}

**Project: MP12186 (B29C)**

- M B29C 2045/1797
  - • {Machine parts provided with a shroud or cover or shield, e.g. for preventing oil or dust scattering ~~(used as safety device B29C 45/84; for guiding or orienting ejected articles B29C 45/1771; for obtaining a particular moulding environment B29C 45/1701; for obtaining a vacuum environment B29C 45/34)}~~}
- U B29C 45/46
  - • Means for plasticising or homogenising the moulding material or forcing it into the mould {(combined with mould opening, closing or clamping devices [B29C 45/70](#))}
- U B29C 45/56
  - • • using mould parts movable during or after injection, e.g. injection-compression moulding {([B29C 45/1705](#) and [B29C 45/572](#) take precedence)}
- U B29C 45/561
  - • • {Injection-compression moulding}
- M B29C 2045/5665
  - • • • {Compression by transversely movable mould parts ~~(transversely movable mould parts in general B29C 45/33)}~~}
- U B29C 45/76
  - • Measuring, controlling or regulating {(measuring in general [G01](#); controlling or regulating in general [G05](#))}

**NOTE**

In groups [B29C 45/76](#) - [B29C 45/80](#) it is desirable to add the indexing codes of [B29C 2945/76](#) relating to measuring, controlling or regulating in injection moulding

- U B29C 45/7626
  - • • {the ejection or removal of moulded articles}
- M B29C 2045/764
  - • • • {detecting or preventing overload of an ejector ~~(controlling overload in general G01L 5/0071)}~~}
- U B29C 45/84
  - • Safety devices {([B29C 45/7626](#) takes precedence)}
- M B29C 2045/848
  - • • {detecting or preventing overload of an injection plunger ~~(controlling overload in general G01L 5/0071)}~~}

**U B29C 49/00 Blow-moulding, i.e. blowing a preform or parison to a desired shape within a mould; Apparatus therefor**

**WARNING**

Group [B29C 49/00](#) is impacted by reclassification into groups [B29C 49/006](#), [B29C 49/0062](#) and [B29C 49/0064](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- U B29C 49/42
  - Component parts, details or accessories; Auxiliary operations

**WARNING**

Group [B29C 49/42](#) is impacted by reclassification into groups [B29C 49/42378](#), [B29C 49/4238](#), [B29C 49/42382](#), [B29C 49/42384](#), [B29C 49/42386](#), [B29C 49/42388](#), [B29C 49/4239](#), [B29C 49/42392](#), [B29C 49/42394](#), [B29C 49/42396](#), [B29C 49/42398](#), [B29C 49/424](#), [B29C 49/42402](#), [B29C 49/42403](#), [B29C 49/42405](#), [B29C 49/42407](#), [B29C 49/42408](#), [B29C 49/42409](#), [B29C 49/4241](#), [B29C 49/42412](#), [B29C 49/42413](#), [B29C 49/42414](#), [B29C 49/42416](#), [B29C 49/42418](#), [B29C 49/4242](#), [B29C 49/42421](#), [B29C 49/42422](#), [B29C 49/42424](#), [B29C 49/42426](#), [B29C 49/42428](#), [B29C 49/4244](#), [B29C 49/42442](#), [B29C 49/42444](#), [B29C 49/42446](#), [B29C 49/42448](#), [B29C 49/4245](#), [B29C 49/42452](#), [B29C 49/42454](#), [B29C 49/425](#), [B29C 49/4251](#), [B29C 49/427](#), [B29C 49/428](#), [B29C 49/42802](#), [B29C 49/42806](#), [B29C 49/42808](#), [B29C 49/42809](#), [B29C 49/4281](#), [B29C 49/42811](#), [B29C 49/42815](#), [B29C 49/42817](#), [B29C 49/4282](#), [B29C 49/42822](#), [B29C 49/42824](#), [B29C 49/42826](#), [B29C 49/42828](#), [B29C 49/4283](#), [B29C 49/42832](#), [B29C 49/42834](#),

[B29C 49/42836](#), [B29C 49/42845](#), [B29C 49/4285](#), [B29C 49/42855](#),  
[B29C 49/4286](#), [B29C 49/42865](#), [B29C 49/4287](#), [B29C 2049/4296](#),  
[B29C 2049/4298](#) and [B29C 2049/431](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- U B29C 49/48
- Moulds
- WARNING  
Group [B29C 49/48](#) is impacted by reclassification into groups [B29C 49/48185](#), [B29C 49/4819](#), [B29C 2049/48615](#), [B29C 2049/4862](#), [B29C 2049/4863](#), [B29C 2049/4874](#), [B29C 2049/4881](#), [B29C 2049/48825](#) and [B29C 2049/4883](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- U B29C 49/54
- • • for undercut articles
- M B29C 2049/542
- • • {having means to facilitate the removal of the blow moulded articles ~~(in general B29C 33/44)~~}
- U B29C 71/00**
- After-treatment of articles without altering their shape; Apparatus therefor (B29C 44/56, B29C 73/00 take precedence; surface shaping B29C 59/00 {; for joined or sealed parts B29C 66/03; after-treatment specially adapted for vulcanising tyres B29D 30/0633})**
- U B29C 71/0009
- {using liquids, e.g. solvents, swelling agents (spectacle cases, e.g. for cleaning contact lenses [A45C 11/04](#); disinfecting or sterilising contact lenses [A61L 12/00](#), using liquid substances [A61L 2/20](#); cleaning involving the use of liquid in general [B08B 3/00](#); for hydrating contact lenses [B29D 11/00067](#))}
- M B29C 2071/0027
- • {Removing undesirable residual components, e.g. solvents, unreacted monomers ~~(of material to be shaped B29B 9/16, B29B 13/00)~~}
- U B29C 2791/00**
- Shaping characteristics in general**
- U B29C 2791/004
- Shaping under special conditions
- M B29C 2791/009
- • Using laser ~~(curing using laser B29C 2035/0838, welding using laser beams B29C 65/16)~~

## Project: MP12186 (B29D)

- U B29D 30/00**
- Producing pneumatic or solid tyres or parts thereof (producing inner tubes [B29D 23/24](#); constructional form of tyres or parts thereof [B60C](#); connection of valves to inflatable elastic bodies [B60C 29/00](#); testing of tyres [G01M 17/02](#))**
- U B29D 30/06
- Pneumatic tyres or parts thereof {(e.g. produced by casting, moulding, compression moulding, injection moulding, centrifugal casting)}
- U B29D 30/0601
- • {Vulcanising tyres; Vulcanising presses for tyres}
- U B29D 30/0606
- • • {Vulcanising moulds not integral with vulcanising presses (for solid tyres [B29D 30/02](#))}
- M B29D 2030/0607
- • • • {Constructional features of the moulds ~~(moulds or cores in general B29C 33/00)~~}
- M B29D 2030/0614
- • • • {porous moulds, e.g. sintered materials ~~(porous moulds in general B29C 33/3814)~~}
- U B29D 30/0662
- • • {Accessories, details or auxiliary operations}
- M B29D 2030/0666
- • • • {Heating by using fluids ~~(heating, cooling or curing using liquids, gas or steam B29C 35/04)~~}
- U B29D 30/0681
- • {Parts of pneumatic tyres; accessories, auxiliary operations}

- M B29D 2030/0682 . . . {Inner liners ~~(tubeless tyres with impervious liner or coating on the tyre B60C 5/14)~~}
- U B29D 30/38 . . . Textile inserts, e.g. cord or canvas layers, for tyres (making woven fabrics [D03D](#)); Treatment of inserts prior to building the tyre (pretreatment of inserts [B29B 15/00](#); manufacture of layers comprising fibrous parallel reinforcements of substantial or continuous length [B29C 70/20](#))
- M B29D 2030/383 . . . {Chemical treatment of the reinforcing elements, e.g. cords, wires and filamentary materials, to increase the adhesion to the rubber ~~(chemical pretreatment of the textile inserts B29D 30/40; pretreatment of reinforcements B29B 15/08; treating fibers, threads, yarns, fabrics in general D06M 15/00)~~}
- U B29D 30/42 . . . Endless textile bands without bead-rings
- M B29D 2030/421 . . . . {General aspects of the joining methods and devices for creating the bands ~~(joining of preformed parts in general B29C 65/00)~~}
- M B29D 2030/422 . . . . {Butt joining ~~(single butt to butt joints in general B29C 66/1142)~~}
- M B29D 2030/423 . . . . {Joining by overlapping ~~(single lap to lap joints in general B29C 66/1122; single bevel to bevel joints in general B29C 66/1162)~~}
- M B29D 2030/424 . . . . {the joining devices being angularly adjustable ~~(joining devices characterized by the movement of the joining tools B29C 66/83)~~}
- M B29D 2030/425 . . . . {the joining devices being laterally adjustable ~~(joining devices characterized by the movement of the joining tools B29C 66/83)~~}
- M B29D 2030/426 . . . . {the joining devices being longitudinally adjustable ~~(joining devices characterized by the movement of the joining tools B29C 66/83)~~}
- M B29D 2030/427 . . . . {Positioning the bands at the joining areas ~~(positioning the parts to be joined in general B29C 65/7802)~~}
- M B29D 2030/428 . . . . {Positioning the bands at the overlapping joining areas ~~(positioning the parts to be joined by setting the overlap in general B29C 65/7835)~~}
- U B29D 30/72 . . . Side-walls
- M B29D 2030/726 . . . {Decorating or marking the sidewalls before tyre vulcanization ~~(protecting; decorating; marking tyre sidewalls B60C 13/00)~~}
- M B29D 2030/728 . . . {Decorating or marking the sidewalls after tyre vulcanization ~~(protecting; decorating; marking tyre sidewalls B60C 13/00)~~}

**Project: MP12186 (B32B)**

- U B32B 2260/00 **Layered product comprising an impregnated, embedded, or bonded layer wherein the layer comprises an impregnation, embedding, or binder material**
- U B32B 2260/02 . . . Composition of the impregnated, bonded or embedded layer
- M B32B 2260/021 . . . Fibrous or filamentary layer ~~(layers of natural mineral fibres or particles being impregnated in a plastic substance B32B 19/02)~~
- M B32B 2260/025 . . . Particulate layer ~~(layers of natural mineral fibres or particles being impregnated in a plastic substance B32B 19/02)~~

**Project: MP12187 (B32B)**

- U B32B 2262/00 **Composition or structural features of fibres which form a fibrous or filamentary layer or are present as additives**
- U B32B 2262/02 . . . Synthetic macromolecular fibres
- M B32B 2262/0253 . . . Polyolefin fibres ~~(vinyl or acrylic copolymers B32B 2262/0223 or B32B 2262/0246)~~

**Project: MP12186 (B32B)**

- M B32B 2262/10 · Inorganic fibres ~~(layered products comprising a layer of natural mineral fibres B32B-19/00)~~

**Project: MP12187 (B32B)****U B32B 2266/00 Composition of foam**

- U B32B 2266/02 · Organic

- U B32B 2266/0214 · · Materials belonging to [B32B 27/00](#)

- M B32B 2266/025 · · · Polyolefin ~~(vinyl or acrylic copolymers B32B-2266/0221, B32B-2266/0242)~~

**M B32B 2274/00 Thermoplastic elastomer material ~~(thermoplastic elastomer fibres B32B-2262/0215, thermoplastic elastomer particles B32B-2264/0221, thermoplastic elastomer foam B32B-2266/0292)~~**

**U B32B 2307/00 Properties of the layers or laminate**

- U B32B 2307/30 · having particular thermal properties

- M B32B 2307/308 · · Heat stability ~~(dimensional stability B32B-2307/734)~~

- M B32B 2307/40 · having particular optical properties ~~(light or UV resistant B32B-2307/71)~~

**U B32B 2317/00 Animal or vegetable based**

- M B32B 2317/22 · Natural rubber ~~(synthetic rubber B32B-2319/00)~~

**M B32B 2319/00 Synthetic rubber ~~(natural rubber B32B-2317/22)~~**NOTE

In groups [B32B 2319/00](#) - [B32B 2386/00](#), C-Sets are used. Detailed information about C-Sets construction and the associated syntax rules is found in the Definitions.

- M B32B 2405/00 Adhesive articles, e.g. adhesive tapes ~~(labels B32B-2519/00)~~

- M B32B 2413/00 Belts ~~(conveyor belts B32B-2433/02; drive belts B32B-2433/04)~~

- M B32B 2419/00 Buildings or parts thereof ~~(walls, panels B32B-2607/00)~~

- M B32B 2419/04 · Tiles for floors or walls ~~(tiles for roofs B32B-2419/06)~~

- M B32B 2432/00 Cleaning articles, e.g. mops, ~~wipes~~ or ~~wipes~~ ~~(personal care B32B-2555/00)~~

- M B32B 2437/00 Clothing ~~(anti-ballistic clothing B32B-2571/02)~~

- M B32B 2439/00 Containers; Receptacles ~~(closures therefor B32B-2435/00)~~

- M B32B 2451/00 Decorative or ornamental articles ~~(wall paper B32B-2607/02)~~

- M B32B 2479/00 Furniture ~~(upholstery B32B-2601/00)~~

- M B32B 2535/00 Medical equipment, e.g. bandage, prostheses, ~~catheter~~ or ~~catheter~~ ~~(medical patches B32B-2556/00)~~

**U B32B 2571/00 Protective equipment**

- M B32B 2571/02 · defensive, e.g. armour plates; or anti-ballistic clothing ~~(camouflage nets B32B-2459/00)~~

**U B32B 2605/00 Vehicles**

- M B32B 2605/18 · Aircraft ~~(blades, propellers B32B-2603/00)~~

**Project: MP12186 (B41M)**

- U B41M 2205/00**      **Printing methods or features related to printing methods; Location or type of the layers**
- M B41M 2205/40      · Cover layers; Layers separated from substrate by imaging layer; Protective layers; Layers applied before imaging ~~(protective layers applied after imaging B41M-7/00)~~

**Project: MP12186 (B41P)**

- U B41P 2213/00**      **Arrangements for actuating or driving printing presses; Auxiliary devices or processes**
- U B41P 2213/40      · Auxiliary devices or processes associated with the drives
- M B41P 2213/42      · · Vibration-dampers for machine parts ~~(for cylinders B41F-13/085)~~
- U B41P 2227/00**      **Mounting or handling printing plates; Forming printing surfaces in situ**
- M B41P 2227/20      · Means enabling or facilitating exchange of tubular printing or impression members, e.g. printing sleeves, blankets ~~(attaching cylindrical printing formes B41F-27/105)~~

**Project: MP12187 (B60B)**

- M B60B 2200/00**      **Type of product being used or applied** ~~(kind of vehicle product being used or applied B60Y-2200/00)~~
- U B60B 2900/00**      **Purpose of invention**
- U B60B 2900/50      · Improvement of
- M B60B 2900/521      · · Tire mounting or removal ~~(devices therefor B60B-2340/50)~~

**Project: MP12186 (B60G)**

- U B60G 2206/00**      **Indexing codes related to the manufacturing of suspensions: constructional features, the materials used, procedures or tools**
- U B60G 2206/01      · Constructional features of suspension elements, e.g. arms, dampers, springs
- U B60G 2206/80      · · Manufacturing procedures
- U B60G 2206/82      · · · Joining
- U B60G 2206/8201      · · · · by welding
- M B60G 2206/82014      · · · · · Magnetic pulse welding ~~(welding by magnetic pulse in general B23K-20/06)~~

**Project: MP12186 (B60K)**

- U B60K 6/00** Arrangement or mounting of plural diverse prime-movers for mutual or common propulsion, e.g. hybrid propulsion systems comprising electric motors and internal combustion engines {; Control systems therefor, i.e. systems controlling two or more prime movers, or controlling one of these prime movers and any of the transmission, drive or drive units (arrangement or mounting in vehicles of electrical gearing, in which an electrical machine serves only as reduction gearing and not as the prime mover and in which no electrical storing means are used [B60K 17/12](#); control and regulation of purely electrical prime movers [B60L](#); prime-movers comprising electrical and internal combustion motors in a common engine block or housing *per se* [F02B 65/00](#); electric motors or motor-generators used for starting the combustion engine [F02N 11/04](#); electric motors for synchronising gearing [F16H 3/12](#) )}{Informative references: mechanical gearings with secondary electric drive [F16H 3/72](#); arrangements for handling mechanical energy structurally associated with the dynamo-electric machine [H02K 7/00](#); machines comprising structurally interrelated motor and generator parts [H02K 51/00](#); dynamo-electric machines not otherwise provided for in [H02K](#) *see* [H02K 99/00](#)}

**NOTE**

In this subgroup, the following expressions are used, with the meanings indicated :

- "energy storing means" means apparatus for storing propulsive energy and providing stored energy to drive the prime mover or the ultimate propulsive elements
- "hybrid electric vehicle" (HEV) means a vehicle with an electrical prime mover and a combustion engine, in which the electrical prime mover and the combustion engine either singly or in combination, drive the ultimate propulsive elements, e.g. wheels
- "motor-generator" means an electric motor, or an electric generator, or an electrical machine which can be used for both functions, as a motor or a generator
- "prime mover" means a propulsion unit or source of motive power providing a mechanical output, e.g. via a rotating shaft

- U B60K 6/20** . the prime-movers consisting of electric motors and internal combustion engines, e.g. HEVs

**NOTE**

When classifying in one of groups [B60K 6/22](#), [B60K 6/42](#) or [B60K 6/50](#), further technical information, which is considered to represent information of interest for search, should also be classified in the other subgroups of main group [B60K 6/00](#) to enable searching using a combination of classification symbols

- U B60K 6/22** . . characterised by apparatus, components or means specially adapted for HEVs
- U B60K 6/38** . . . characterised by the driveline clutches (shift clutches within the gearing or transmission [B60K 6/36](#) {, [B60K 6/54](#)})
- M B60K 2006/381** . . . {characterized by driveline brakes (~~shift brakes in transmission~~ [B60K-6/54](#))}

**Project: MP12187 (B60K)**

- U B60K 15/00** Arrangement in connection with fuel supply of combustion engines {or other fuel consuming energy converters, e.g. fuel cells}; Mounting or construction of fuel tanks (tanks in general [B65D](#), [F17C](#); supplying combustion engines with combustible mixtures or constituents [F02M](#))

- U B60K 15/03 · Fuel tanks (chassis frame comprising fluid storage compartment [B62D 21/16](#) {; Details of the fuel feeding system related to the fuel tank [F02M 37/0076](#)})
- M B60K 2015/03118 · {Multiple tanks, i.e. two or more separate tanks ~~(supplementary tanks inside the fuel tank B60K-2015/03105)~~}
- M B60K 2015/0319 · {with electronic systems, e.g. for controlling fuelling or venting ~~(for LPG tanks B60K-2015/03013)~~}

**Project: Unknown (B60K)**

- U B60K 2015/03197 · · · {Systems for exchanging data}
- M B60K 2015/03203 · · · {during ~~refueling~~[refuelling](#)}

**Project: MP12186 (B60K)**

- U B60K 2015/03328 · · {Arrangements or special measures related to fuel tanks or fuel handling}
- M B60K 2015/03434 · · · {for preventing theft of fuel ~~(locks for filler caps B60K-15/0409; locking of the inlet cover B60K-2015/0561)~~}

**Project: MP12187 (B60K)**

- U B60K 15/035 · · characterised by venting means
- M B60K 2015/03542 · · · {Mounting of the venting means ~~(mounting of venting tubes B60K-2015/03528)~~}

**Project: Unknown (B60K)**

- U B60K 2015/03561 · · · {Venting means working at specific times}
- M B60K 2015/03566 · · · {comprising means for stopping the venting of fuel vapor, e.g. during ~~refueling~~[refuelling](#) or engine stop}

**Project: MP12187 (B60K)**

- U B60K 15/04 · · Tank inlets ([B60K 15/077](#) takes precedence)
- U B60K 15/05 · · · Inlet covers
- M B60K 2015/0515 · · · · {Arrangements for closing or opening of inlet cover ~~(locking means B60K-2015/0561)~~}
- U B60K 15/077 · · with means modifying or controlling distribution or motion of fuel, e.g. to prevent noise, surge, splash or fuel starvation
- M B60K 2015/0772 · · · {Floats in the fuel tank ~~(float valves B60K-2015/03289)~~}

**Project: MP12186 (B60K)**

- U B60K 23/00 **Arrangement or mounting of control devices for vehicle transmissions, or parts thereof, not otherwise provided for (movable cabs having special adaptations of vehicle control devices [B62D 33/06](#); such control devices per se [F16D](#), [F16H](#))**
- U B60K 23/02 · for main transmission clutches
- M B60K 2023/025 · · {Adjusting of clutch pedal positions ~~(clutch adjustment for removing slack F16D-13/75)~~}

**Project: MP12186 (B60R)**

- U B60R 19/00 **Wheel guards; Radiator guards, {e.g. grilles}; Obstruction removers; Fittings damping bouncing force in collisions ({reinforcement elements for side doors [B60J 5/0412](#); } mudguards [B62D](#))**

- U B60R 19/02 · Bumpers, i.e. impact receiving or absorbing members for protecting vehicles or fending off blows from other vehicles or objects ([B60R 19/56](#) takes precedence; initiating brake action by contact of bumper with an external object [B60T 7/22](#); for rail vehicles [B61F 19/04](#); safety equipment for cycles [B62J 27/00](#);) integral with waterborne vessels or specially adapted therefor [B63B 59/02](#))
- U B60R 19/18 · · {characterised by the cross-section;} Means within the bumper to absorb impact
- M B60R 2019/1806 · · · {Structural beams therefor, e.g. shock-absorbing ~~(bumper beams made of cellular materials B60R 19/22)~~}

**Project: MP12187 (B60R)**

- M B60R 2019/1886 · · · {Bumper fascias and fastening means therefor ~~(on fenders B60R 2019/247)~~}

**Project: MP12346 (B60R)**

- M B60R 21/00 **Arrangements or fittings on vehicles for protecting or preventing injuries to occupants or pedestrians in case of accidents or other traffic risks (safety belts or body harnesses in vehicles [B60R 22/00](#); devices, apparatus or methods for life-saving in general [A62B](#); safety devices for propulsion unit control specially adapted for, or arranged in, vehicles [B60K 28/00](#); seats constructed to protect the occupant from the effect of abnormal g-forces, e.g. crash or safety seats, [B60N 2/42](#); energy-absorbing arrangements for hand wheels for steering vehicles [B62D 1/11](#); energy-absorbing arrangements for vehicle steering columns [B62D 1/19](#); harnessing in aircraft [B64D 25/00](#))**

**Project: MP12187 (B60R)**

- U B60R 21/01 · Electrical circuits for triggering {passive} safety arrangements, {e.g. airbags, safety belt tighteners,} in case of vehicle accidents or impending vehicle accidents {(electrical circuits for transmission of signals between steering wheel and the vehicle itself [B60R 16/027](#); for electrically actuating belt retractor locking means [B60R 22/343](#))}
- U B60R 2021/01122 · · {Prevention of malfunction}
- M B60R 2021/01184 · · · {Fault detection or diagnostic circuits ~~(in power circuits B60R 2021/01129)~~}
- U B60R 21/02 · Occupant safety arrangements or fittings {, e.g. crash pads (seat belts with crash pads [B60R 22/14](#); removable children's seats having a front guard or barrier [B60N 2/2839](#))}
- U B60R 21/16 · · Inflatable occupant restraints or confinements designed to inflate upon impact or impending impact, e.g. air bags ({protective garments with automatically inflatable shock-absorbing means [A41D 13/018](#); } connection of valves to inflatable elastic bodies [B60C 29/00](#))
- U B60R 21/23 · · · Inflatable members ([B60R 21/18](#) takes precedence; connection to inflation fluid source retainers [B60R 21/217](#))
- U B60R 21/235 · · · · characterised by their material
- U B60R 2021/23504 · · · · · {characterised by material}
- M B60R 2021/23519 · · · · · {Resin ~~(for coating fabric B60R 2021/23514)~~}
- M B60R 2021/23523 · · · · · {Composite ~~(coated fabric B60R 2021/23514)~~}
- U **B60R 22/00** **Safety belts or body harnesses in vehicles (safety belts or body harnesses in general [A62B 35/00](#))**
- U B60R 22/34 · Belt retractors, e.g. reels (anchoring devices {, e.g. guide loops} , with means to tension the belt in an emergency [B60R 22/195](#))

- U B60R 22/44 · · with means for reducing belt tension during use under normal conditions {(not included in the retractor [B60R 22/19](#); [B60R 22/3405](#) takes precedence)}
- M B60R 2022/4473 · · · {using an electric retraction device ~~(combined with a spring B60R-2022/444; B60R-2022/4466)}~~}

**Project: MP12187 (B60T)**

- U B60T 2240/00 **Monitoring, detecting wheel/tire behaviour; counteracting thereof**
- M B60T 2240/02 · Longitudinal grip ~~(detection of road friction B60T-2210/10)~~

**Project: MP12186 (B60Y)**

- M B60Y 2300/00 **Purposes or special features of road vehicle drive control systems** ~~(for systems using conjoint control of multiple vehicle sub-units B60W-30/00)~~
- M B60Y 2302/00 **Responses or measures related to driver conditions** ~~(for propulsion units B60K-28/02, related to driving style B60W-40/09)~~

**Project: MP12186 (B62K)**

- M B62K 2204/00 **Adaptations for driving cycles by electric motor** ~~(for driving electrically assisted bicycles B62M-6/00)~~

**Project: MP12186 (B63C)**

- U B63C 11/00 **Equipment for dwelling or working underwater; Means for searching for underwater objects (composition of chemical substances for use in breathing apparatus [A62D 9/00](#); swimming aids or equipment [A63B 31/00](#) - [A63B 35/00](#); submarines [B63G 8/00](#))**
- U B63C 11/02 · Divers' equipment
- M B63C 2011/027 · · {Shells for diving equipment, i.e. substantially rigid housings or covers, e.g. streamlined shells ~~(diving computer with shells B63C-2011/021, shells for containers for goods or personal belongings of the diver B63C-11/02)}~~}

**Project: RP11903-F (B64C)**

- M B64C 21/00 **Influencing air flow over aircraft surfaces by affecting boundary layer flow**  
**WARNING**  
Group B64C-21/00 is impacted by reclassification into group B64C-21/01. Groups B64C-21/00 and B64C-21/01 should be considered in order to perform a complete search.
- M B64C 21/01 · Boundary layer ingestion [BLI] propulsion  
**WARNING**  
Group B64C-21/01 is incomplete pending reclassification of documents from groups B64C-21/00, B64C-21/025, B64C-21/04, B64C-21/06 and B64C-21/08. All groups listed in this Warning should be considered in order to perform a complete search.
- U B64C 21/02 · by use of slot, ducts, porous areas or the like
- M B64C 21/025 · · {for simultaneous blowing and sucking}  
**WARNING**  
Group B64C-21/025 is impacted by reclassification into group B64C-21/01. All groups listed in this Warning should be considered in order to perform a complete search.

- M B64C 21/04
- for blowing
- WARNING**  
Group B64C 21/04 is incomplete pending reclassification of documents from group B64C 21/08.  
Group B64C 21/04 is also impacted by reclassification into group B64C 21/01.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M B64C 21/06
- for sucking (BLI propulsion [B64C 21/01](#))
- WARNING**  
Group B64C 21/06 is incomplete pending reclassification of documents from group B64C 21/08.  
Group B64C 21/06 is also impacted by reclassification into group B64C 21/01.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M B64C 21/08
- adjustable
- WARNING**  
Group B64C 21/08 is impacted by reclassification into group B64C 21/04, B64C 21/06 and B64C 21/01.  
All groups listed in this Warning should be considered in order to perform a complete search.

**Project: Unknown (B64D)**

- U B64D 1/00
- Dropping, ejecting, releasing, or receiving articles, liquids, or the like, in flight (with respect to weapon sights devices [F41G](#) takes precedence, parachutes *per se* [B64D 17/00](#); ejectable seats [B64D 25/10](#); ejectable capsules [B64D 25/12](#); refuelling during flight [B64D 39/00](#); launching apparatus for projecting projectiles or missiles [F41F 1/00](#), [F41F 7/00](#); rocket or torpedo launchers [F41F 3/00](#))**
- U B64D 1/02
- Dropping, ejecting, or releasing articles (jettisonable fuel reservoirs [B64D 37/12](#))
- U B64D 1/04
- the articles being explosive, e.g. bombs (arming or setting bomb fuzes [F42C](#))
- M B64D 1/06
- Bomb releasing; **BombsBomb** doors

**Project: MP12186 (B64D)**

- U B64D 2231/00
- Emergency oxygen systems**
- U B64D 2231/02
- Supply or distribution systems
- M B64D 2231/025
- Oxygen masks; Mask storages (~~seats combined with storage means, said storage means being specially adapted for emergency equipment [B64D 11/0629](#)~~); Features related to mask deployment

**Project: MP12359 (B64F)**

**M B64F**                    **GROUND OR AIRCRAFT-CARRIER-DECK INSTALLATIONS SPECIALLY ADAPTED FOR USE IN CONNECTION WITH AIRCRAFT; DESIGNING, MANUFACTURING, ASSEMBLING, CLEANING, MAINTAINING OR REPAIRING AIRCRAFT, NOT OTHERWISE PROVIDED FOR; HANDLING, TRANSPORTING, TESTING OR INSPECTING AIRCRAFT COMPONENTS, NOT OTHERWISE PROVIDED FOR**

NOTE

In this subclass, the following terms or expressions are used with the meaning indicated:

- "installations" embraces equipment, including mobile equipment, peculiar to use in connection with aircraft and not fitted thereto;
- "ground installations" embraces waterborne installations.

WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

**M B64F 1/00**                    **Ground or aircraft-carrier-deck installations ~~(specially adapted for captive aircraft B64F 3/00)~~**

WARNING

Group [B64F 1/00](#) is impacted by reclassification into groups [B64F 1/223](#), [B64F 1/225](#), [B64F 1/227](#), [B64F 1/228](#) and [B64F 1/35](#).

All groups listed in this Warning should be considered in order to perform a complete search.

**M B64F 1/18**                    • Visual or acoustic landing aids ~~{(taxiing aids B64F 1/002)}~~

**Project: Unknown (B64G)**

**U B64G 1/00**                    **Cosmonautic vehicles**

**U B64G 1/10**                    • Artificial satellites; Systems of such satellites; Interplanetary vehicles (space shuttles [B64G 1/14](#))

**M B64G 1/1078**                • • {Maintenance satellites (~~refueling in space B64G 1/4024~~ *refuelling in space B64G 1/4024*)}

WARNING

Group [B64G 1/1078](#) is impacted by reclassification into groups [B64G 1/1081](#) and [B64G 1/4024](#).

Groups [B64G 1/1078](#), [B64G 1/1081](#) and [B64G 1/4024](#) should be considered in order to perform a complete search.

**U B64G 1/22**                    • Parts of, or equipment specially adapted for fitting in or to, cosmonautic vehicles

**U B64G 1/40**                    • • Arrangements or adaptations of propulsion systems

WARNING

Group [B64G 1/40](#) is impacted by reclassification into group [B64G 1/4005](#).

Groups [B64G 1/40](#) and [B64G 1/4005](#) should be considered in order to perform a complete search.

**U B64G 1/402**                • • • {Propellant tanks; Feeding propellants}

WARNING

Group [B64G 1/402](#) is impacted by reclassification into groups [B64G 1/4021](#), [B64G 1/4022](#), [B64G 1/4024](#) and [B64G 1/4026](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- M B64G 1/4024 . . . {~~Refueling~~*refuelling* in space}  
WARNING  
Group [B64G 1/4024](#) is incomplete pending reclassification of documents from groups [B64G 1/1078](#) and [B64G 1/402](#).  
Groups [B64G 1/1078](#), [B64G 1/402](#) and [B64G 1/4024](#) should be considered in order to perform a complete search.
- U B64G 1/64 . . Systems for coupling or separating cosmonautic vehicles or parts thereof, e.g. docking arrangements
- M B64G 1/646 . . . {Docking or rendezvous systems (~~refueling in space B64G 1/4024~~*refuelling in space B64G 1/4024*)}  
WARNING  
Group [B64G 1/646](#) is impacted by reclassification into groups [B64G 1/6462](#) and [B64G 1/6464](#).  
Groups [B64G 1/646](#), [B64G 1/6462](#) and [B64G 1/6464](#) should be considered in order to perform a complete search.

**Project: MP12186 (B65B)**

- U B65B 2210/00 Specific aspects of the packaging machine**
- M B65B 2210/06 . Sterilising or cleaning machinery or conduits (~~cleaning machinery in general B08B~~)
- U B65B 2220/00 Specific aspects of the packaging operation**
- M B65B 2220/04 . Means for, or method of collapsing containers with walls hinged together or detachably connected (~~such containers per se B65D 11/18~~)
- M B65B 2220/24 . Cooling filled packages (~~cooling articles or materials to be packaged B65B 63/08; cooling package closures after heat sealing B65B 51/32~~)

**Project: MP12186 (B65D)**

- M B65D 2203/00 **Decoration means, markings, information elements, contents indicators** (~~see also B65D 5/4212, B65D 33/004~~)
- M B65D 2203/04 . Level indicators (~~see also B65D 25/56, B65D 33/004~~)
- M B65D 2251/00 **Details relating to container closures** (~~lids or covers for box-like containers B65D 43/00; see also B65D 43/00~~)
- M B65D 2255/00 **Locking devices** (~~for actuation of aerosol containers B65D 83/226; for lids B65D 2251/1008, B65D 2251/1016~~)
- M B65D 2401/00 **Tamper-indicating means** (~~relating to aerosol containers B65D 83/224~~)

**Project: MP12187 (B65D)**

- U B65D 2401/15 . Tearable part of the closure ([B65D 2401/60](#) takes precedence)
- M B65D 2401/20 . . Frangible elements completely enclosed in closure skirt (~~tear-off strips B65D 2401/25~~)
- U B65D 2501/00 Containers having bodies formed in one piece**
- U B65D 2501/24 . Boxes or like containers with moulded compartments or partitions
- U B65D 2501/24006 . . Details relating to bottle crates
- U B65D 2501/24866 . . . Other details

- M B65D 2501/24936 . . . Means for handling ~~(handles B65D 2501/24363)~~
- M B65D 2543/00 Lids or covers essentially for box-like containers ~~(for container closures in general B65D 2251/00)~~**
- U B65D 2543/00009 . Details of lids or covers for rigid or semi-rigid containers
- U B65D 2543/00018 . . Overall construction of the lid
- U B65D 2543/00064 . . . Shape of the outer periphery
- M B65D 2543/00074 . . . . curved ~~(combined with straight sides B65D 2543/0012)~~
- U B65D 2543/0012 . . . . having straight sides, e.g. with curved corners
- U B65D 2543/00175 . . . . . four straight sides, e.g. trapezium or diamond
- M B65D 2543/00194 . . . . . square or rectangular ~~(with curved sides B65D 2543/00101)~~
- U B65D 2571/00 Bundles of articles held together by packaging elements for convenience of storage or transport, e.g. portable segregating carrier for plural receptacles such as beer cans, pop bottles; Bales of material**
- U B65D 2571/00123 . Bundling wrappers or trays
- M B65D 2571/00129 . . Wrapper locking means ~~(end walls locking means B65D 2571/00722)~~

**Project: MP12186 (B65D)**

- U B65D 2581/00 Containers, packaging elements, or packages, for contents presenting particular transport or storage problems, or adapted to be used for non-packaging purposes after removal of contents**
- U B65D 2581/34 . for packaging foodstuffs or other articles intended to be cooked or heated within
- U B65D 2581/3401 . . Cooking or heating method specially adapted to the contents of the package
- U B65D 2581/3402 . . . characterised by the type of product to be heated or cooked
- M B65D 2581/3425 . . . . Cooking a complete meal, e.g. TV-dinners ~~(trays with moulded compartments B65D 1/36)~~
- U B65D 2585/00 Containers, packaging elements or packages specially adapted for particular articles or materials**
- U B65D 2585/68 . for machines, engines, or vehicles in assembled or dismantled form
- M B65D 2585/86 . . for electrical components ~~(small electrical components attached to cards, sheets or webs B65D 73/02; for articles particularly sensitive to damage by shock or pressure B65D 2585/30; for ampoules, lamp bulbs, electronic valves or tubes B65D 85/42)~~
- U B65D 2585/88 . . . Batteries

**Project: MP12186 (B65H)**

- U B65H 2301/00 Handling processes for sheets or webs**
- U B65H 2301/40 . Type of handling process
- U B65H 2301/41 . . Winding, unwinding
- U B65H 2301/413 . . . Supporting web roll
- U B65H 2301/4134 . . . . Both ends type arrangement
- M B65H 2301/41342 . . . . . shaft transversing the roll ~~(see also B65H 75/08)~~

**Project: MP12187 (B65H)**

- U B65H 2301/417 . . . Handling or changing web rolls
- U B65H 2301/4171 . . . . Handling web roll
- M B65H 2301/4175 . . . . . involving cart ~~(see B65H 2405/422)~~

- U B65H 2301/42 · · Piling, depiling, handling piles
- U B65H 2301/422 · · · Handling piles, sets or stacks of articles
- U B65H 2301/4226 · · · · Delivering, advancing piles
- M B65H 2301/42262 · · · · · by acting on surface of outermost articles of the pile, e.g. in nip between pair of belts or rollers (~~Nota: gripping pile see B65H 2301/4224~~)
- U B65H 2301/44 · · Moving, forwarding, guiding material
- U B65H 2301/443 · · · by acting on surface of handled material
- U B65H 2301/4433 · · · · by means holding the material
- M B65H 2301/44331 · · · · · at particular portion of handled material (~~to be used in combination with at least one code B65H 2701/13~~)
  
- U B65H 2551/00 Means for control to be used by operator; User interfaces**
- U B65H 2551/10 · Command input means
- M B65H 2551/14 · · Switches; Selectors (~~contact switches B65H 2553/25~~)
  
- U B65H 2557/00 Means for control not provided for in groups [B65H 2551/00](#) - [B65H 2555/00](#)**
- U B65H 2557/10 · for signal transmission
- M B65H 2557/11 · · wireless (~~input by remote control devices B65H 2551/13~~)
  
- U B65H 2701/00 Handled material; Storage means**
- U B65H 2701/10 · Handled articles or webs
- U B65H 2701/17 · · Nature of material
- M B65H 2701/174 · · · Textile, fibre (for filamentary material [B65H 2701/31](#) and subgroups); fibres
- U B65H 2701/19 · · Specific article or web
- M B65H 2701/192 · · · Labels (~~carrying webs or liners B65H 2701/194~~)

**Project: MP12188 (C01B)**

- M C01B 2203/00 **Integrated processes for the production of hydrogen or synthesis gas**  
(~~reactors or details thereof B01J 2208/00 - B01J 2219/00~~)

**Project: MP12111 (C02F)**

- U C02F 1/00 Treatment of water, waste water, or sewage ([C02F 3/00](#) - [C02F 9/00](#) take precedence)**
- U C02F 1/46 · by electrochemical methods
- U C02F 1/461 · · by electrolysis
- U C02F 1/46104 · · · {Devices therefor; Their operating or servicing}
- U C02F 1/46109 · · · · {Electrodes}

NOTE

When classifying in group [C02F 1/46109](#), details of devices for electrolysis can be further indexed by using indexing codes chosen from [C02F 2001/46119](#) - [C02F 2001/46166](#)

- M C02F 2001/46152 · · · · · {characterised by the shape or form (~~electrodes in particulate form or with conductive or non-conductive particles between them C02F 1/46114~~)}

**Project: MP12188 (C02F)**

- U C02F 2201/00 Apparatus for treatment of water, waste water or sewage**
- M C02F 2201/008 · Mobile apparatus and plants, e.g. mounted on a vehicle (~~for biological treatment C02F 2203/008~~)

- M C02F 2201/009 · Apparatus with independent power supply, e.g. solar cells, windpower; ~~or fuel cells (for electrolysis apparatus C02F 2201/46165)~~
- U C02F 2201/46 · Apparatus for electrochemical processes
- U C02F 2201/461 · · Electrolysis apparatus
- U C02F 2201/46105 · · · Details relating to the electrolytic devices
- M C02F 2201/4619 · · · · Supplying gas to the electrolyte ~~(gas diffusion electrodes C02F 2001/46166)~~

**Project: MP12188 (C03B)**

- U C03B 2215/00 Press-moulding glass**
- U C03B 2215/02 · Press-mould materials
- U C03B 2215/08 · · Coated press-mould dies
- U C03B 2215/14 · · · Die top coat materials, e.g. materials for the glass-contacting layers
- M C03B 2215/22 · · · · Non-oxide ceramics ~~(carbon C03B 2215/24)~~

**Project: MP12188 (C04B)**

- U C04B 2111/00 Mortars, concrete or artificial stone or mixtures to prepare them, characterised by specific function, property or use**
- M C04B 2111/00025 · {Aspects relating to the protection of the health, e.g. materials containing special additives to afford skin protection ~~(avoiding chromium eczema by using chromium VI-free or very low chromium VI-content materials C04B 2111/1081)}~~
- U C04B 2111/00474 · {Uses not provided for elsewhere in [C04B 2111/00](#)}
- U C04B 2111/00482 · · {Coating or impregnation materials}
- M C04B 2111/00577 · · · {applied by spraying ~~(mixtures shapable by spraying C04B 2111/00155)}~~}
- U C04B 2111/0081 · · {as catalysts or catalyst carriers}
- M C04B 2111/00827 · · · {Photocatalysts}; ~~(materials containing photocatalysts to avoid staining by air pollutants C04B 2111/2061)}~~
- U C04B 2111/10 · Compositions or ingredients thereof characterised by the absence or the very low content of a specific material
- U C04B 2111/1075 · · {Chromium-free or very low chromium-content materials}
- M C04B 2111/1081 · · · {Chromium VI, e.g. for avoiding chromium eczema ~~(materials containing special additives for affording skin protection C04B 2111/00025)}~~}
- U C04B 2111/20 · Resistance against chemical, physical or biological attack
- U C04B 2111/2038 · · {Resistance against physical degradation}
- M C04B 2111/2069 · · · {Self-cleaning materials, e.g. using lotus effect ~~(using photocatalysts C04B 2111/2061)}~~}
- M C04B 2111/2076 · · · {Discolouring resistant materials ~~(self-cleaning materials C04B 2111/2069)}~~}

**U C04B 2235/00 Aspects relating to ceramic starting mixtures or sintered ceramic products**NOTE

In this group, magnesium is considered as an alkaline earth metal.

- U C04B 2235/02 · Composition of constituents of the starting material or of secondary phases of the final product

NOTE

Indexing codes [C04B 2235/02](#) - [C04B 2235/5481](#) are to be used only if the aspect is not trivial or not standard, e.g. if water is used as a mixing medium for a powder, whereas normally an organic mixing medium is used or if not

the standard alpha-alumina is used to make an alumina ceramic but gamma-alumina in stead.

U C04B 2235/30

- • Constituents and secondary phases not being of a fibrous nature

#### NOTES

1. Indexing codes [C04B 2235/30](#) - [C04B 2235/549](#) are to be given to constituents or additives only if:

- a. it is not obvious from the end product as such that the constituent or additive has been used for making the end product.

Examples:

- in case spinel is made from a certain clay in stead of from alumina and silica, the clay is coded,
- when calcium zirconate and titania are used to make calcium zirconium titanate, a code should be given for the calcium zirconate constituent while normally calcium oxide or calcium carbonate and zirconia are used.

The titania constituent of the starting mixture is not coded since it is to be expected that a single metal oxide is used to make a mixed metal oxide.

- b. it is not obvious from the "invention information" symbols that this constituent has been used to make the end product, e.g. if the "invention information" symbol given indicates that a zirconia-alumina composite is prepared it is common practice that zirconia and alumina constituents have been used and thus no codes for zirconia or alumina are given. In the same way, if an allocation indicates that an oxide ceramic contains carbon, no code for the addition of carbon is given. However for an alumina composite product comprising titania, the main symbol for composites based on alumina is given together with an indexing code for titania.

2. In groups [C04B 2235/32](#) - [C04B 2235/349](#) oxides are considered to comprise also metal salts from which they are formed by heating.

U C04B 2235/34

- • • Non-metal oxides, non-metal mixed oxides, or salts thereof that form the non-metal oxides upon heating, e.g. carbonates, nitrates, (oxy)hydroxides, chlorides

M C04B 2235/3418

- • • Silicon oxide, silicic acids, or oxide forming salts thereof, e.g. silica sol, fused silica, silica fume, cristobalite, quartz or flint (~~glass constituents C04B 2235/36~~)

U C04B 2235/44

- • • Metal salt constituents or additives chosen for the nature of the anions, e.g. hydrides or acetylacetonate

M C04B 2235/447

- • • ~~Phosphates or phosphites (calcium phosphates C04B 2235/3212)~~ *Phosphates or phosphites*, e.g. orthophosphate, or hypophosphite

U C04B 2235/50

- • Constituents or additives of the starting mixture chosen for their shape or used because of their shape or their physical appearance

U C04B 2235/52

- • • Constituents or additives characterised by their shapes

M C04B 2235/5296

- • • with a defined aspect ratio, e.g. indicating sphericity (~~spherical constituents C04B 2235/528~~)

**Project: MP12346 (C05F)**

**M C05F**                    **ORGANIC FERTILISERS NOT COVERED BY SUBCLASSES [C05B](#), [C05C](#), e.g. FERTILISERS FROM WASTE OR REFUSE ~~{(breeding of earthworms A01K 67/0332)}~~**

NOTE

Processes where the composting step is the characterising feature, or apparatus therefor, are classified in group [C05F 17/00](#).

WARNING

The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[C05F 15/00](#)                    covered by                    [C05F 1/00-C05F 11/00](#)  
(see also internal note after the title of class [C05](#))

**Project: MP12188 (C07C)**

**U C07C 2527/00**            **Catalysts comprising the elements or compounds of halogens, sulfur, selenium, tellurium, phosphorus or nitrogen; Catalysts comprising carbon compounds**

NOTE

Metal catalysts or metal oxide catalysts activated or conditioned by halogens, sulfur or phosphorus, or compounds thereof are indexed in the appropriate groups for metal or metal oxide catalysts.

- U C07C 2527/14            · Phosphorus; Compounds thereof
- U C07C 2527/16            · · containing oxygen
- M C07C 2527/18            · · · with metals ~~(phosphates C07C 2527/167)~~

**Project: MP12374 (C07F)**

**U C07F 17/00**                    **Metallocenes**

M C07F 17/02                    · of metals of Groups 8, 9 or 10 of the Periodic [System Table](#)

**Project: MP12111 (C08J)**

**U C08J 2201/00**            **Foams characterised by the foaming process**

U C08J 2201/02            · characterised by mechanical pre- or post-treatments

M C08J 2201/032            · · Impregnation of a formed object with a gas ~~(expandable particles, e.g. polystyrene beads C08J 9/18)~~

**Project: MP12188 (C08J)**

**M C08J 2331/00**            **Characterised by the use of copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an acyloxy radical of a saturated carboxylic acid, or carbonic acid, or of a haloformic acid ~~(of hydrolysed polymers C08J 2329/00)~~**

**M C08J 2337/00**            **Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a heterocyclic ring containing oxygen ~~(of cyclic esters of polyfunctional acids C08J 2331/00; of cyclic anhydrides of unsaturated acids C08J 2335/00); Derivatives of such polymers~~**

- M C08J 2345/00 Characterised by the use of homopolymers or copolymers of compounds having no unsaturated aliphatic radicals in side chain, and having one or more carbon-to-carbon double bonds in a carbocyclic or in a heterocyclic ring system; Derivatives of such polymers ~~(of cyclic anhydrides or imides C08J 2335/00; of cyclic esters of polyfunctional acids C08J 2331/00)~~
- M C08J 2351/00 Characterised by the use of graft polymers in which the grafted component is obtained by reactions only involving carbon-to-carbon unsaturated bonds ~~(for ABS polymers C08J 2355/02)~~; Derivatives of such polymers
- M C08J 2361/00 Characterised by the use of condensation polymers of aldehydes or ketones ~~(with polyalcohols C08J 2359/00; with polynitriles C08J 2377/00)~~; Derivatives of such polymers
- M C08J 2361/20 · Condensation polymers of aldehydes or ketones with only compounds containing hydrogen attached to nitrogen ~~(with amino phenols C08J 2361/04)~~
- M C08J 2367/00 Characterised by the use of polyesters obtained by reactions forming a carboxylic ester link in the main chain ~~(of polyester-amides C08J 2377/12; of polyester-imides C08J 2379/08)~~; Derivatives of such polymers
- M C08J 2371/00 Characterised by the use of polyethers obtained by reactions forming an ether link in the main chain ~~(of polyacetals C08J 2359/00; of epoxy resins C08J 2363/00; of polythioether-ethers C08J 2381/02; of polyethersulfones C08J 2381/06)~~; Derivatives of such polymers
- M C08J 2377/00 Characterised by the use of polyamides obtained by reactions forming a carboxylic amide link in the main chain ~~(of polyhydrazides C08J 2379/06; of polyamide-imides or polyamide acids C08J 2379/08)~~; Derivatives of such polymers
- U C08J 2383/00 Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing silicon with or without sulfur, nitrogen, oxygen, or carbon only; Derivatives of such polymers
- M C08J 2383/10 · Block- or graft-copolymers containing polysiloxane sequences ~~(obtained by polymerising a compound having a carbon-to-carbon double bond on to a polysiloxane C08J 2351/08; C08J 2353/00)~~
- M C08J 2393/00 Characterised by the use of natural resins; Derivatives thereof ~~(of polysaccharides C08J 2301/00 – C08J 2305/00; of natural rubber C08J 2317/00)~~
- M C08J 2397/00 Characterised by the use of lignin-containing materials ~~(of polysaccharides C08J 2301/00 – C08J 2305/00)~~
- M C08J 2431/00 Characterised by the use of copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an acyloxy radical of a saturated carboxylic acid, or carbonic acid, or of a haloformic acid ~~(of hydrolysed polymers C08J 2429/00)~~
- M C08J 2437/00 Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a heterocyclic ring containing oxygen ~~(of cyclic esters of polyfunctional acids C08J 2431/00; of cyclic anhydrides of unsaturated acids C08J 2435/00)~~; Derivatives of such polymers

- M C08J 2445/00** Characterised by the use of homopolymers or copolymers of compounds having no unsaturated aliphatic radicals in side chain, and having one or more carbon-to-carbon double bonds in a carbocyclic or in a heterocyclic ring system; Derivatives of such polymers ~~(of cyclic anhydrides or imides C08J 2435/00; of cyclic esters of polyfunctional acids C08J 2431/00)~~
- M C08J 2451/00** Characterised by the use of graft polymers in which the grafted component is obtained by reactions only involving carbon-to-carbon unsaturated bonds ~~(for ABS polymers C08J 2455/02)~~; Derivatives of such polymers
- M C08J 2461/00** Characterised by the use of condensation polymers of aldehydes or ketones ~~(with polyalcohols C08J 2459/00; with polynitriles C08J 2477/00)~~; Derivatives of such polymers
- M C08J 2461/20** · Condensation polymers of aldehydes or ketones with only compounds containing hydrogen attached to nitrogen ~~(with amino phenols C08J 2461/04)~~
- M C08J 2467/00** Characterised by the use of polyesters obtained by reactions forming a carboxylic ester link in the main chain ~~(of polyester-amides C08J 2477/12; of polyester-imides C08J 2479/08)~~; Derivatives of such polymers
- M C08J 2471/00** Characterised by the use of polyethers obtained by reactions forming an ether link in the main chain ~~(of polyacetals C08J 2459/00; of epoxy resins C08J 2463/00; of polythioether-ethers C08J 2481/02; of polyethersulfones C08J 2481/06)~~; Derivatives of such polymers
- M C08J 2477/00** Characterised by the use of polyamides obtained by reactions forming a carboxylic amide link in the main chain ~~(of polyhydrazides C08J 2479/06; of polyamide-imides or polyamide acids C08J 2479/08)~~; Derivatives of such polymers
- U C08J 2483/00** Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing silicon with or without sulfur, nitrogen, oxygen, or carbon only; Derivatives of such polymers
- M C08J 2483/10** · Block- or graft-copolymers containing polysiloxane sequences ~~(obtained by polymerising a compound having a carbon-to-carbon double bond on to a polysiloxane C08J 2451/08; C08J 2453/00)~~
- M C08J 2493/00** Characterised by the use of natural resins; Derivatives thereof ~~(of polysaccharides C08J 2401/00 - C08J 2405/00; of natural rubber C08J 2417/00)~~
- M C08J 2497/00** Characterised by the use of lignin-containing materials ~~(of polysaccharides C08J 2401/00 - C08J 2405/00)~~

**Project: MP11960 (C09J)**

- U C09J 2301/00** Additional features of adhesives in the form of films or foils
- U C09J 2301/40** · characterized by the presence of essential components
- M C09J 2301/414** · · presence of a copolymer

NOTE

~~This group is to be used in combination with combined indexing codes of C09J 2401/00 - C09J 2499/008 in case a copolymer is present but not a blend.~~

*This group is to be used in combination with C-Sets of C09J 2401/00 - C09J 2499/008 in case a copolymer is present but not a blend.*

**N** C09J 2400/00 - **Indexing scheme related to the use of materials in adhesive processes in general or adhesives in the form of films or foils**

**M** C09J 2400/00 **Presence of inorganic and organic materials**

**NOTE**

*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

**Project: Unknown (C09J)**

C09J 2400/10 · Presence of inorganic materials

**NOTE**

*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

**Project: MP11960 (C09J)**

**M** C09J 2401/00 **Presence of cellulose**

**NOTE**

*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

**M** C09J 2403/00 **Presence of starch**

**NOTE**

*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

**M** C09J 2405/00 **Presence of polysaccharides**

**NOTE**

*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

**M** C09J 2407/00 **Presence of natural rubber**

**NOTE**

*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

**M** C09J 2409/00 **Presence of diene rubber**

**NOTE**

*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

- M C09J 2411/00**      **Presence of chloroprene**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2413/00**      **Presence of rubbers containing carboxyl groups**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2415/00**      **Presence of rubber derivatives**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2417/00**      **Presence of reclaimed rubber**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2421/00**      **Presence of unspecified rubber**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2423/00**      **Presence of polyolefin**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2425/00**      **Presence of styrenic polymer**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2427/00**      **Presence of halogenated polymer**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

- M C09J 2429/00**      **Presence of polyvinyl alcohol**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2431/00**      **Presence of polyvinyl acetate**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2433/00**      **Presence of (meth)acrylic polymer**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2451/00**      **Presence of graft polymer**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2453/00**      **Presence of block copolymer**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2455/00**      **Presence of ABS**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2459/00**      **Presence of polyacetal**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2461/00**      **Presence of condensation polymers of aldehydes or ketones**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

- M C09J 2463/00**      **Presence of epoxy resin**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2465/00**      **Presence of polyphenylene**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2467/00**      **Presence of polyester**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2469/00**      **Presence of polycarbonate**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2471/00**      **Presence of polyether**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2475/00**      **Presence of polyurethane**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2477/00**      **Presence of polyamide**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*
- M C09J 2479/00**      **Presence of polyamine or polyimide**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C09J.*

- M C09J 2481/00**      **Presence of sulfur containing polymers**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of [C09J](#).*
- M C09J 2483/00**      **Presence of polysiloxane**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of [C09J](#).*
- M C09J 2489/00**      **Presence of protein**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of [C09J](#).*
- M C09J 2491/00**      **Presence of oils, fats or waxes**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of [C09J](#).*
- M C09J 2493/00**      **Presence of natural resin**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of [C09J](#).*
- M C09J 2495/00**      **Presence of bitume**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of [C09J](#).*
- M C09J 2497/00**      **Presence of lignin**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of [C09J](#).*
- M C09J 2499/00**      **Presence of natural macromolecular compounds or on derivatives thereof, not provided for in groups [C09J 2489/00](#) - [C09J 2497/00](#)**
- NOTE  
*In this group, combination sets [C-Sets] are used. Detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of [C09J](#).*

**Project: MP12188 (C10J)**

- U C10J 2200/00**      **Details of gasification apparatus**
- M C10J 2200/06      • Catalysts as integral part of gasifiers (~~catalysts added to the feed C10J 2300/0986~~)

**Project: MP12111 (C10J)**

- M C10J 2200/36      • Moving parts inside the gasification reactor not otherwise provided for (~~devices for distributing fuel evenly over a fixed bed C10J 3/32~~)
- U C10J 2300/00**      **Details of gasification processes**
- U C10J 2300/16      • Integration of gasification processes with another plant or parts within the plant
- M C10J 2300/1603      • • with gas treatment (~~gas cleaning C10K 1/00~~)
- U C10J 2300/164      • • with conversion of synthesis gas
- U C10J 2300/1643      • • • Conversion of synthesis gas to energy
- M C10J 2300/1646      • • • • integrated with a fuel cell (~~gasification of solids in fuel cells H01M 8/0643~~)
- M C10J 2300/165      • • • • integrated with a gas turbine or gas motor (~~gas turbine plants provided with a gas producer F02C 3/28; engines using solid fuels F02B 43/08~~)
- M C10J 2300/1653      • • • • integrated in a gasification combined cycle [IGCC] (~~engines driven by heat coming from a gasification or pyrolysis unit F01K 23/067~~)
- U C10J 2300/1656      • • • Conversion of synthesis gas to chemicals
- M C10J 2300/1659      • • • • to liquid hydrocarbons (~~Fischer-Tropsch process C10G 2/00~~)
- M C10J 2300/1662      • • • • to methane (~~SNG~~) (~~production of synthetic natural gas C10L 3/08~~)
- M C10J 2300/1665      • • • • to alcohols, e.g. methanol or ethanol (~~preparation of alcohols in general C07C 29/00~~)
- M C10J 2300/1668      • • • • to urea (~~preparation of urea C07C 273/00~~); to ammonia (~~preparation of ammonia C01C 1/0405~~)
- M C10J 2300/1678      • • with air separation (~~separating gases using rectification of air F25J 3/04521~~)
- M C10J 2300/169      • • with water treatments (~~treatment of water in general or water purification G02F~~)
- U C10J 2300/18      • Details of the gasification process, e.g. loops, autothermal operation
- M C10J 2300/183      • • Non-continuous or semi-continuous processes (~~cyclic processes in fixed bed gasification C10J 3/04~~)

**Project: MP12188 (C10M)**

- U C10M 2201/00**      **Inorganic compounds or elements as ingredients in lubricant compositions**
- M C10M 2201/06      • Metal compounds (~~of chromium C10M 2201/086~~)
- M C10M 2201/08      • Inorganic acids or salts thereof (~~of phosphorus C10M 2201/085, of chromium C10M 2201/086, of boron C10M 2201/087; metal carbonates or bicarbonates C10M 2201/062~~)
- M C10M 2201/082      • • containing nitrogen (~~nitrides C10M 2201/061~~)
- M C10M 2201/084      • • containing sulfur, selenium or tellurium (~~sulfides, tellurides, selenides C10M 2201/065~~)

- U C10M 2207/00**      **Organic non-macromolecular hydrocarbon compounds containing hydrogen, carbon and oxygen as ingredients in lubricant compositions**

NOTE

In this group compounds, (e.g. phenols, succinic acid) substituted by an alkyl group derived from a polymerised olefin are not considered as macromolecular compounds

- M C10M 2207/28 · Esters ~~(epoxidised esters C10M 2207/24)~~
- M C10M 2209/00 Organic ~~macromolecular~~ **macromolecular** compounds containing oxygen as ingredients in lubricant compositions ~~(oxidised hydrocarbons C10M 2205/12)~~
- U C10M 2215/00 Organic **non-macromolecular** compounds containing nitrogen as ingredients in lubricant compositions
- M C10M 2215/02 · Amines, e.g. polyalkylene polyamines; Quaternary amines ~~(polyalkylene polyamines with eleven or more monomer units C10M 2217/046)~~
- U C10M 2219/00 Organic **non-macromolecular** compounds containing sulfur, selenium or tellurium as ingredients in lubricant compositions
- U C10M 2219/02 · Sulfur-containing compounds obtained by sulfurisation with sulfur or sulfur-containing compounds
- M C10M 2219/022 · · of hydrocarbons, e.g. olefines ~~(polyolefins C10M 2221/041)~~
- U C10M 2221/00 Organic **macromolecular** compounds containing sulfur, selenium or tellurium as ingredients in lubricant compositions
- M C10M 2221/02 · Macromolecular compounds obtained by reactions of monomers involving only carbon-to-carbon unsaturated bonds ~~(sulfurised polyolefins C10M 2221/041)~~
- U C10M 2227/00 Organic **non-macromolecular** compounds containing atoms of elements not provided for in groups [C10M 2203/00](#), [C10M 2207/00](#), [C10M 2211/00](#), [C10M 2215/00](#), [C10M 2219/00](#) or [C10M 2223/00](#) as ingredients in lubricant compositions
- M C10M 2227/08 · having metal-to-carbon bonds ~~(metal complexes of unknown constitution C10M 2227/09)~~

**Project: Unknown (C10N)**

- U C10N 2040/00 **Specified use or application for which the lubricating composition is intended**
- U C10N 2040/25 · Internal-combustion engines
- M C10N 2040/251 · · {Alcohol ~~fueled~~ **fuelled** engines}

**Project: MP12188 (C12N)**

- U C12N 2310/00 **Structure or type of the nucleic acid**  
NOTE  
In groups [C12N 2310/00](#) - [C12N 2310/533](#), C-Sets are used for classification. The detailed information about the C-Sets construction and the associated syntax rules are found in the Definitions of [C12N](#).
- U C12N 2310/10 · Type of nucleic acid
- M C12N 2310/18 · · acting by a non-sequence specific mechanism ~~(other than C12N 2310/16 or C12N 2310/17)~~
- U C12N 2500/00 **Specific components of cell culture medium**
- U C12N 2500/05 · Inorganic components
- M C12N 2500/10 · · Metals; Metal chelators ~~(cobalamine C12N 2500/38)~~
- U C12N 2500/20 · · · Transition metals
- M C12N 2500/22 · · · · Zinc; Zn chelators ~~(insulin-zinc complexes C12N 2501/33)~~
- M C12N 2500/30 · Organic components ~~(metal chelators C12N 2500/10; calcitonin C12N 2500/14; transferrin C12N 2500/24)~~

- M C12N 2500/40 · · Nucleotides, nucleosides, ~~bases or bases~~ (cyclic nucleotides C12N 2501/01; anti-neoplastic drugs C12N 2501/06)
- M C12N 2500/70 · Undefined extracts (~~conditioned medium C12N 2502/00~~)

**U C12N 2501/00 Active agents used in cell culture processes, e.g. differentiation**

NOTE

Whenever possible, indexation is done by signalling pathway and not by chemical structure, e.g. the group of a protein covers not only peptide analogs of it and the corresponding nucleic acids, as in C07K 14/00, but also antibodies, anti-idiotypic antibodies, non-peptide ligands of the receptor, the receptor itself, antibodies against the receptor or inhibitors of the conversion enzyme which processes the protein precursor. Unless otherwise provided for, ligands and substrates take precedence over receptors and enzymes.

- M C12N 2501/30 · Hormones (~~derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin C12N 2501/85~~)
- M C12N 2501/33 · · Insulin (~~together with transferrin C12N 2500/25; Insulin-like growth factors C12N 2501/105~~)
- U C12N 2501/70 · Enzymes
- M C12N 2501/72 · · Transferases (~~[/EC 2.]~~) (~~acetylation of histones C12N 2501/065~~)

**U C12N 2533/00 Supports or coatings for cell culture, characterised by material**

- M C12N 2533/30 · Synthetic polymers (~~thermoreactive polymers, e.g. PNIPAm, C12N 2539/10~~)

**Project: MP12111 (C12P)**

- M C12P 2203/00 Fermentation products obtained from optionally pretreated or hydrolyzed cellulosic or lignocellulosic material as the carbon source (~~ethanol C12P 7/10~~)

**Project: MP12188 (C12Q)**

- M C12Q 2304/00 Chemical means of detecting microorganisms (~~hydrolase substrates C12Q 2334/00, peptidase substrates C12Q 2337/00~~)

**Project: MP12189 (D06N)**

**U D06N 2209/00 Properties of the materials**

- U D06N 2209/16 · having other properties
- M D06N 2209/1664 · · Releasability (~~adhesive allowing removal of the whole carpet D06N 2213/066; releasability between at least two layers of a carpet, rug or synthetic lawn D06N 2213/068~~)

**U D06N 2211/00 Specially adapted uses**

- M D06N 2211/08 · Cleaning articles (~~personal care D06N 2211/24~~)
- U D06N 2211/12 · Decorative or sun protection articles
- M D06N 2211/18 · · Medical, e.g. bandage, prostheses, ~~catheter or catheter~~ (medical patches D06N 2211/22; medical packaging D06N 2211/20)

**Project: MP12189 (D07B)**

**U D07B 2301/00 Controls**

- M D07B 2301/45 · for diagnosing (~~signals indicating failure or excessive conditions D07B 2301/30~~)

**Project: MP12189 (E04F)**

- U E04F 2201/00 Joining sheets or plates or panels**

- U E04F 2201/04 · Other details of tongues or grooves
- M E04F 2201/044 · · with tongues or grooves comprising elements which are not manufactured in one piece with the sheets, plates or panels but which are permanently fixedly connected to the sheets, plates or panels, e.g. at the factory ~~(for separate tongues E04F 2201/0523)~~

**Project: MP12189 (E05B)**

- U E05B 15/00 Other details of locks; Parts for engagement by bolts of fastening devices**
- U E05B 15/16 · Use of special materials for parts of locks
- M E05B 2015/1692 · {Wires or straps ~~(for springs E05B 2015/0403)~~}

**Project: MP12186 (E05B)**

- U E05B 17/00 Accessories in connection with locks (buffers [E05F 5/00](#); means for preventing rattling of wings [E05F 7/04](#); means for taking the weight of the wing [E05F 7/06](#))**
- M E05B 2017/0095 · {Means preventing wrong operation, e.g. preventing damaging contact between extended bolt and striker or bolt and frame ~~(retaining the bolt in the retracted position E05B 63/18)~~}
- U E05B 35/00 Locks for use with special keys or a plurality of keys {; keys therefor}**
- M E05B 2035/009 · {Locks where a characteristic part of the user's body is used as a key ~~(control of electronic locks by characteristics of body parts G07C 9/00563)~~}

**Project: MP12189 (E05B)**

- U E05B 47/00 Operating or controlling locks or other fastening devices by electric or magnetic means (electric permutation locks [E05B 49/00](#))**
- U E05B 47/0001 · {with electric actuators; Constructional features thereof (for vehicles [E05B 81/04](#))}
- U E05B 47/0012 · · {with rotary electromotors (actuators with rotary electromotors per se [H02K 7/06](#), [H02K 23/68](#))}
- M E05B 2047/0013 · · · {more than one motor for the same function, e.g. for redundancy or increased power ~~(electric spare devices E05B 2047/0087)~~}

**Project: MP12186 (E05B)**

- M E05B 2047/0014 · · {Constructional features of actuators or power transmissions therefor ~~(for vehicles E05B 81/24)~~}
- M E05B 2047/0089 · {with electronic learning functions ~~(electronic locks G07C 9/00)~~}

**Project: MP12189 (E05B)**

- M E05B 2047/0091 · {Retrofittable electric locks, e.g. an electric module can be attached to an existing manual lock ~~(electrically driven keys E05B 2047/0083)~~}

**Project: MP12186 (E05B)**

- M E05B 2047/0094 · {Mechanical aspects of remotely controlled locks ~~(electronic locks G07C 9/00)~~}
- M E05B 2047/0095 · · {Mechanical aspects of locks controlled by telephone signals, e.g. by mobile phones ~~(electronic locks G07C 9/00)~~}
- M E05B 2047/0096 · · {Mechanical aspects of locks whose actuation is dependent on geographical location, e.g. by means of a GPS system ~~(electronic locks G07C 9/00)~~}

**Project: MP12189 (E05B)**

- U E05B 63/00 Locks {or fastenings} with special structural characteristics**
- M E05B 2063/0026 · {Elongated, e.g. stud-like, striker entering into an opening in which movable detent means engage the elongated striker ~~(stud-like keepers in general E05B-2015/0235)}~~}

**Project: MP12186 (E05F)**

- U E05F 15/00 Power-operated mechanisms for wings (motor-operated accessories in locks for completing closing or initiating opening of a wing [E05B 17/00](#))**
- U E05F 15/70 · with automatic actuation
- U E05F 15/73 · · responsive to movement or presence of persons or objects
- M E05F 2015/765 · · · {using optical sensors ~~(using photoelectric cells E05F-15/74)}~~}

**Project: MP12136 (F01M)**

- U F01M 13/00 Crankcase ventilating or breathing**
- U F01M 13/04 · having means for purifying air before leaving crankcase, e.g. removing oil
- M F01M 2013/0455 · · {with a de-icing or defrosting system ~~(for breathing valves F01M-2013/0027)}~~}

**Project: MP12136 (F02F)**

- U F02F 2200/00 Manufacturing**
- M F02F 2200/06 · Casting ~~(casting of pistons F02F-2003/0007)~~

**Project: MP12136 (F02G)**

- U F02G 2243/00 Stirling type engines having closed regenerative thermodynamic cycles with flow controlled by volume changes**
- M F02G 2243/30 · having their pistons and displacers each in separate cylinders ~~(two-piston machines F02G-2244/00)~~

**Project: MP12186 (F02M)**

- U F02M 2200/00 Details of fuel-injection apparatus, not otherwise provided for**
- M F02M 2200/29 · Fuel-injection apparatus having rotating means ~~(rotary valves F02M-63/0038)~~

**Project: MP12186 (F04B)**

- U F04B 2201/00 Pump parameters**
- U F04B 2201/02 · Piston parameters
- M F04B 2201/021 · · Rotational speed of a piston rotating around its own axis ~~(F04B-7/06)~~

**Project: MP12136 (F05B)**

- U F05B 2230/00 Manufacture**
- NOTE  
Manufacture comprises also treatment, assembly or disassembly methods, repairing, handling or the like.
- M F05B 2230/90 · Coating; Surface treatment ~~(manufacture with deposition of material F05B-2220/30)~~

<b>U</b>	<b>F05B 2240/00</b>	<b>Components</b>
		<u>NOTE</u> Components are the basic elements of construction.
U	F05B 2240/10	• Stators
U	F05B 2240/12	• • Fluid guiding means, e.g. vanes
		<u>WARNING</u> Group <a href="#">F05B 2240/12</a> is impacted by reclassification into group <a href="#">F03D 1/046</a> . Groups <a href="#">F05B 2240/12</a> and <a href="#">F03D 1/046</a> should be considered in order to perform a complete search.
M	F05B 2240/122	• • • Vortex generators, turbulators, or the like, for mixing <del>(by creating turbulence F05B 2260/222)</del>
		<u>WARNING</u> Group <a href="#">F05B 2240/122</a> is impacted by reclassification into group <a href="#">F03D 1/046</a> . Groups <a href="#">F05B 2240/122</a> and <a href="#">F03D 1/046</a> should be considered in order to perform a complete search.

**Project: MP12186 (F05B)**

<b>U</b>	<b>F05B 2250/00</b>	<b>Geometry</b>
		<u>NOTE</u> Geometry indicates the shape or form of a component or the configuration or arrangement of components in a machine or in a plant.
U	F05B 2250/80	• Size or power range of the machines
M	F05B 2250/84	• • Nanomachines <del>(Nanotechnology for interacting, sensing or actuating B82Y 15/00)</del>
<b>U</b>	<b>F05B 2260/00</b>	<b>Function</b>
M	F05B 2260/02	• Transport, e.g. specific adaptations or devices for conveyance <del>(transport of wind turbines or equipments therefore F03D 13/40)</del>

**Project: MP12136 (F05B)**

U	F05B 2260/60	• Fluid transfer
U	F05B 2260/602	• • Drainage
M	F05B 2260/603	• • • of leakage having past a seal <del>(seals F05B 2240/57; glands F05B 2240/63)</del>
M	F05B 2260/95	• Preventing corrosion <del>(coating or surface treatment F05B 2230/90)</del>

**Project: MP12136 (F05D)**

<b>U</b>	<b>F05D 2230/00</b>	<b>Manufacture</b>
M	F05D 2230/90	• Coating; Surface treatment <del>(manufacture with deposition of material F05D 2230/30)</del>
<b>U</b>	<b>F05D 2240/00</b>	<b>Components</b>
		<u>NOTE</u> Components are the basic elements of construction
U	F05D 2240/10	• Stators
U	F05D 2240/12	• • Fluid guiding means, e.g. vanes

- M F05D 2240/127 . . . Vortex generators, turbulators, or the like, for mixing ~~(by creating turbulence F05D 2260/2212)~~
- U F05D 2260/00 Function**
- U F05D 2260/20 . Heat transfer, e.g. cooling
- U F05D 2260/221 . . Improvement of heat transfer
- M F05D 2260/2212 . . . by creating turbulence ~~(vortex generators, turbulators or the like for mixing F05D 2240/127)~~
- U F05D 2260/60 . Fluid transfer
- U F05D 2260/602 . . Drainage
- M F05D 2260/6022 . . . of leakage having past a seal ~~(seals F05D 2240/57; glands F05D 2240/63)~~

**Project: MP12186 (F05D)**

- M F05D 2260/61 . . Removal of CO<sub>2</sub> ~~(removal of CO<sub>2</sub> from waste gases B01D 53/62)~~

**Project: MP12136 (F05D)**

- M F05D 2260/95 . Preventing corrosion ~~(coating or surface treatment F05D 2230/90)~~
- U F05D 2270/00 Control**
- U F05D 2270/01 . Purpose of the control system
- M F05D 2270/14 . . to control thermoacoustic behaviour in the combustion chambers ~~(counteracting noise or vibration F05D 2260/96)~~

**Project: MP12136 (F15B)**

- U F15B 2211/00 Circuits for servomotor systems**
- U F15B 2211/30 . Directional control
- U F15B 2211/305 . . characterised by the type of valves
- U F15B 2211/3056 . . . Assemblies of multiple valves
- U F15B 2211/30565 . . . . having multiple valves for a single output member, e.g. for creating higher valve function by use of multiple valves like two 2/2-valves replacing a 5/3-valve
- M F15B 2211/3058 . . . . . having additional valves for interconnecting the fluid chambers of a double-acting actuator, e.g. for regeneration mode or for floating mode ~~(directional control valves having a regenerative position F15B 2211/3133; directional control valves having a floating position F15B 2211/3127)~~

**Project: MP12186 (F16C)**

- U F16C 2202/00 Solid materials defined by their properties**
- U F16C 2202/30 . Electric properties; Magnetic properties
- M F16C 2202/40 . . Magnetic ~~(magnetic material in general H01F 1/00)~~
- U F16C 2206/00 Materials with ceramics, cermets, hard carbon or similar non-metallic hard materials as main constituents**
- M F16C 2206/80 . Cermets, i.e. composites of ceramics and metal ~~(in general C22C 29/00)~~
- U F16C 2220/00 Shaping**
- M F16C 2220/02 . by casting ~~(in general B22D; for plastics B29C 39/00)~~
- M F16C 2220/04 . . by injection-moulding ~~(of plastics in general B29C 45/00)~~
- M F16C 2220/20 . by sintering pulverised material, e.g. powder metallurgy ~~(in general B22F)~~

M	F16C 2220/24	· by built-up welding <del>(in general B23K 9/04)</del>
M	F16C 2220/28	· by winding impregnated fibres <del>(in general B29C 70/00)</del>
U	F16C 2220/40	· by deformation without removing material
M	F16C 2220/42	· · by working of thin-walled material such as sheet or tube <del>(in general B21D)</del>
M	F16C 2220/44	· · by rolling <del>(in general B21H)</del>
M	F16C 2220/46	· · by forging <del>(in general B21J)</del>
M	F16C 2220/48	· · by extrusion, e.g. of metallic profiles <del>(in general B21C 23/00)</del>
U	F16C 2220/60	· by removing material, e.g. machining
M	F16C 2220/62	· · by turning, boring, drilling <del>(in general B23B)</del>
M	F16C 2220/66	· · by milling <del>(in general B23C)</del>
M	F16C 2220/68	· · by electrical discharge or electrochemical machining <del>(in general B23H)</del>
M	F16C 2220/70	· · by grinding <del>(in general B24B)</del>
U	F16C 2220/80	· by separating parts, e.g. by severing, cracking
M	F16C 2220/82	· · by cutting <del>(in general B26D)</del>
M	F16C 2220/84	· · by perforating; by punching; by stamping-out <del>(in general B26F)</del>
<b>U</b>	<b>F16C 2223/00</b>	<b>Surface treatments; Hardening; Coating</b>
U	F16C 2223/02	· Mechanical treatment, e.g. finishing
M	F16C 2223/04	· · by sizing, by shaping to final size by small plastic deformation, e.g. by calibrating or coining <del>(in general B23P 9/00)</del>
M	F16C 2223/06	· · polishing <del>(in general B24B 29/00, B24B 31/00)</del>
M	F16C 2223/08	· · shot-peening, blasting <del>(in general B24C)</del>
M	F16C 2223/10	· Hardening, e.g. carburizing, carbo-nitriding <del>(in general C21D, C23C 8/00)</del>
M	F16C 2223/30	· Coating surfaces <del>(in general B05C, C23C)</del>
M	F16C 2223/32	· · by attaching pre-existing layers, e.g. resin sheets or foils by adhesion to a substrate; Laminating <del>(in general B32B)</del>
M	F16C 2223/40	· · by dipping in molten material <del>(in general C23C 2/00)</del>
M	F16C 2223/42	· · by spraying the coating material, e.g. plasma spraying <del>(in general C23C 4/00)</del>
M	F16C 2223/44	· · by casting molten material on the substrate <del>(in general C23C 6/00)</del>
M	F16C 2223/46	· · by welding, e.g. by using a laser to build a layer <del>(in general B23K 9/04)</del>
M	F16C 2223/60	· · by vapour deposition, e.g. PVD, CVD <del>(in general C23C 14/00)</del>
M	F16C 2223/70	· · by electroplating or electrolytic coating, e.g. anodising, galvanising <del>(in general C25D)</del>
M	F16C 2223/80	· · by powder coating <del>(in general B22F 7/00)</del>
<b>M</b>	<b>F16C 2226/00</b>	<b>Joining parts; Fastening; Assembling or mounting parts <del>(fasteners, securing, joints in general F16B)</del></b>
M	F16C 2226/10	· Force connections, e.g. clamping <del>(shrinkage connections, force fits, friction grips in general F16B 4/00, for rigidly connecting coaxial parts F16D 1/00)</del>
M	F16C 2226/14	· · by shrink fit, i.e. heating and shrinking part to allow assembly <del>(for metal parts in general B23P 11/02)</del>
M	F16C 2226/30	· Material joints <del>(in general B23K)</del>
U	F16C 2226/50	· Positive connections
U	F16C 2226/52	· · with plastic deformation, e.g. caulking or staking
M	F16C 2226/54	· · · with rivets <del>(in general F16B 19/00)</del>
M	F16C 2226/60	· · with threaded parts, e.g. bolt and nut connections <del>(in general F16B 23/00- F16B 43/00)</del>

**Project: MP12136 (F16C)**

- M F16C 2240/00 Specified values or numerical ranges of parameters; Relations between them ~~(properties of materials F16C 2202/00)~~

**Project: MP12186 (F16C)**

- M F16C 2310/00 Agricultural machines ~~(in general A01)~~
- M F16C 2314/00 Personal or domestic articles, e.g. household appliances such as washing machines, dryers ~~(in general A41 – A47)~~
- M F16C 2316/00 Apparatus in health or amusement ~~(in general A61 – A63)~~
- M F16C 2320/00 Apparatus used in separating or mixing ~~(in general B01 – B09)~~
- M F16C 2320/23 · Milling apparatus ~~(in general B02C)~~
- M F16C 2320/42 · Centrifuges ~~(in general B04B)~~
- M F16C 2322/00 Apparatus used in shaping articles ~~(in general B21 – B32)~~
- M F16C 2322/34 · Sawing machines ~~(in general B23D)~~
- M F16C 2322/39 · General **build up** *buildup* of machine tools, e.g. spindles, slides, actuators ~~(in general B23Q)~~
- M F16C 2322/50 · Hand tools, workshop equipment or manipulators ~~(in general B25)~~
- M F16C 2322/59 · · Manipulators, e.g. robot arms ~~(in general B25J)~~
- M F16C 2324/00 Apparatus used in printing ~~(in general B41 – B44)~~
- M F16C 2324/16 · Printing machines ~~(in general B41F)~~
- M F16C 2326/00 Articles relating to transporting ~~(in general B60 – B68)~~

**Project: MP12136 (F16C)**

- M F16C 2326/01 · Parts of vehicles in general ~~(engines F16C 2360/00)~~

**Project: MP12186 (F16C)**

- M F16C 2326/02 · · Wheel hubs or castors ~~(in general B60B)~~
- M F16C 2326/05 · · Vehicle suspensions, e.g. bearings, pivots or connecting rods used therein ~~(in general B60G)~~
- M F16C 2326/06 · · Drive shafts ~~(in general B60K)~~
- M F16C 2326/08 · · Vehicle seats, e.g. in linear movable seats ~~(in general B60N)~~
- M F16C 2326/09 · · Windscreen wipers, e.g. pivots therefore ~~(in general B60S)~~
- M F16C 2326/10 · Railway vehicles ~~(in general B61)~~
- M F16C 2326/20 · Land vehicles ~~(in general B62)~~
- M F16C 2326/24 · · Steering systems, e.g. steering rods or columns ~~(in general B62D)~~
- M F16C 2326/26 · · Bicycle steering or suspension ~~(in general B62K)~~
- M F16C 2326/28 · · Bicycle propulsion, e.g. crankshaft and its support ~~(in general B62M)~~
- M F16C 2326/30 · Ships, e.g. propelling shafts and bearings therefor ~~(in general B63H)~~
- M F16C 2326/43 · Aeroplanes; Helicopters ~~(in general B64C)~~
- M F16C 2326/47 · Cosmonautic vehicles, i.e. bearings adapted for use in outer-space ~~(in general B64G)~~
- M F16C 2326/58 · Conveyor systems, e.g. rollers or bearings therefor ~~(in general B65G)~~
- M F16C 2340/00 Apparatus for treating textiles ~~(in general D01 – D07)~~
- M F16C 2340/18 · Apparatus for spinning or twisting ~~(in general D01H)~~

M	F16C 2340/24	· Godet rolls <del>(in general D02)</del>
<b>M</b>	<b>F16C 2350/00</b>	<b>Machines or articles related to building <del>(in general E01 -- E06)</del></b>
M	F16C 2350/26	· Excavators <del>(in general E02F)</del>
M	F16C 2350/52	· Locks, e.g. cables to actuate door locks <del>(in general E05B)</del>
M	F16C 2350/54	· Hinges, e.g. sliding bearings for hinges <del>(in general E05D)</del>
<b>M</b>	<b>F16C 2352/00</b>	<b>Apparatus for drilling <del>(in general E21)</del></b>
<b>M</b>	<b>F16C 2360/00</b>	<b>Engines or pumps <del>(in general F01 -- F04)</del></b>
M	F16C 2360/18	· Camshafts <del>(in general F01L)</del>
M	F16C 2360/22	· Internal combustion engines <del>(in general F02B)</del>
M	F16C 2360/23	· Gas turbine engines <del>(in general F02C)</del>
M	F16C 2360/24	· · Turbochargers <del>(in general F02C 6/12)</del>
M	F16C 2360/31	· Wind motors <del>(in general F03D)</del>
M	F16C 2360/42	· Pumps with cylinders or pistons <del>(in general F04B)</del>
M	F16C 2360/43	· Screw compressors <del>(in general F04C)</del>
M	F16C 2360/44	· Centrifugal pumps <del>(in general F04D)</del>
M	F16C 2360/45	· · Turbo-molecular pumps <del>(in general F04D 19/04)</del>
<b>M</b>	<b>F16C 2361/00</b>	<b>Apparatus or articles in engineering in general <del>(F15 -- F17)</del></b>
M	F16C 2361/41	· Couplings <del>(in general F16D 3/00)</del>
M	F16C 2361/43	· Clutches, e.g. disengaging bearing <del>(in general F16D 11/00 -- F16D 47/00)</del>
M	F16C 2361/45	· Brakes <del>(in general B60T, F16D 49/00 -- F16D 65/00)</del>
M	F16C 2361/53	· Spring-damper, e.g. gas springs <del>(in general F16F 9/00)</del>
M	F16C 2361/55	· Flywheel systems <del>(in general F16F 15/00)</del>
M	F16C 2361/61	· Toothed gear systems, e.g. support of pinion shafts <del>(in general F16H 57/02)</del>
M	F16C 2361/71	· Chains <del>(in general F16G)</del>
<b>M</b>	<b>F16C 2362/00</b>	<b>Apparatus for lighting or heating <del>(in general F21 -- F28)</del></b>
M	F16C 2362/40	· Ovens or other heatings <del>(in general F24)</del>
M	F16C 2362/52	· Compressors of refrigerators, e.g. air-conditioners <del>(in general F25)</del>
<b>M</b>	<b>F16C 2370/00</b>	<b>Apparatus relating to physics, e.g. instruments <del>(in general G01 -- G12)</del></b>
M	F16C 2370/20	· Optical, e.g. movable lenses or mirrors; Spectacles <del>(in general G02)</del>
M	F16C 2370/38	· Electrographic apparatus <del>(in general G03G)</del>
<b>M</b>	<b>F16C 2380/00</b>	<b>Electrical apparatus <del>(in general H01 -- H05)</del></b>
M	F16C 2380/16	· X-ray tubes <del>(in general H01J 35/00)</del>
M	F16C 2380/26	· Dynamo-electric machines or combinations therewith, e.g. electro-motors and generators <del>(in general H02K)</del>

**Project: MP12186 (F16D)**

<b>U</b>	<b>F16D 48/00</b>	<b>External control of clutches</b>
U	F16D 48/02	· Control by fluid pressure
M	F16D 2048/0212	· · {Details of pistons for master or slave cylinders especially adapted for fluid control <del>(for other details of pistons in master or slave cylinders F16D 2025/081 or F16D 25/082)</del> }

- M F16D 2048/0227 · · {Source of pressure producing the clutch engagement or disengagement action within a circuit; Means for initiating command action in power assisted devices ~~(for details of the source or means per se F16D 25/088; F16D 29/005)}~~
- M F16D 2048/023 · · · {by pedal actuation ~~(for pedals per se G01G 1/30)}~~
- U F16D 2048/0233 · · · {by rotary pump actuation}
- M F16D 2048/0251 · · · · {Electric motor driving a piston, e.g. for actuating the master cylinder ~~(for details of the actuator per se F16D 29/00)}~~

**Project: MP12136 (F16D)**

- U F16D 2500/00 External control of clutches by electric or electronic means**
- U F16D 2500/30 · Signal inputs
- U F16D 2500/31 · · from the vehicle
- M F16D 2500/3101 · · · Detection of a brake actuation by a sensor on the brake ~~(brake pedal actuation F16D 2500/31426)~~

**Project: MP12186 (F16H)**

- U F16H 25/00 Gearing comprising primarily only cams, cam-followers and screw-and-nut mechanisms**
- U F16H 25/18 · for conveying or interconverting oscillating or reciprocating motions
- U F16H 25/20 · · Screw mechanisms (with automatic reversal [F16H 25/12](#))
- M F16H 2025/2059 · · · {Superposing movement by two screws, e.g. with opposite thread direction ~~(telescopic screws with three screw members F16H 25/2056)}~~
- U F16H 25/24 · · · Elements essential to such mechanisms, e.g. screws, nuts ([F16H 25/22](#) takes precedence)
- M F16H 2025/249 · · · · {Special materials or coatings for screws or nuts ~~(lubrication F16H 57/0497)}~~
- U F16H 35/00 Gearing or mechanisms with other special functional features**
- M F16H 2035/003 · {Gearing comprising pulleys or toothed members of non-circular shape, e.g. elliptical gears ~~(harmonic drives with elliptical wave generators F16H 49/001)}~~
- M F16H 2035/005 · {Gearing or mechanisms preventing back-driving ~~(braking or locking of screw actuators F16H 25/2454)}~~
- M F16H 2035/006 · {Gearing or mechanisms for stopping or limiting movement, e.g. stopping a movement after few turns ~~(for linear screw actuators F16H 25/2015)}~~
- U F16H 57/00 General details of gearing (of screw-and-nut gearing [F16H 25/00](#); of fluid gearing [F16H 39/00](#) - [F16H 43/00](#))**
- M F16H 2057/005 · {Mounting preassembled units, i.e. using pre-mounted structures to speed up final mounting process ~~(mounting of gears or shafts in a gearbox F16H 57/022)}~~
- M F16H 2057/0087 · {Computer aided design [CAD] specially adapted for gearing features ~~(computer aided design per se G06F 30/00)~~; Analysis of gear systems}
- U F16H 57/01 · Monitoring wear or stress of gearing elements, e.g. for triggering maintenance
- M F16H 2057/018 · · {Detection of mechanical transmission failures ~~(fixing or adapting to failure F16H 2057/0081)~~; of transmission control [F16H 61/12](#)}
- U F16H 57/02 · Gearboxes; Mounting gearing therein

**NOTE**

When classifying in this group, in the absence of an indication to the contrary, classification is made in all appropriate subgroups.

- M F16H 2057/02034 . . {Gearboxes combined or connected with electric machines ~~(structural association with electric machines H02K 7/116)~~}
- M F16H 2057/02091 . . {Measures for reducing weight of gearbox ~~(by using particular materials F16H 57/032)~~}
- U F16H 57/08 . of gearings with members having orbital motion
- M F16H 2057/087 . . {Arrangement and support of friction devices in planetary gearings, e.g. support of clutch drums, stacked arrangements of friction devices ~~(see also arrangements for shifting planetary gears F16H 3/62, F16H 63/3026)~~}
- U F16H 59/00 Control inputs to {control units of} change-speed-, or reversing-gearings for conveying rotary motion**
- U F16H 59/02 . Selector apparatus
- NOTE  
Selection apparatus of general applicability or of interest apart from its use in control of gearings conveying rotary motion is also classified in subclass [G05G](#)
- M F16H 2059/0221 . . {for selecting modes, i.e. input device ~~(for selecting between different modes with range selector F16H 2059/082; for conjoint control B60W 30/182)~~}
- M F16H 2059/023 . . {Selectors for gearings using voice control ~~(for vehicle control B60R 16/0373)~~}
- M F16H 2059/0239 . . {Up- and down-shift or range or mode selection by repeated movement ~~(mechanical step by step selection devices F16H 63/14)~~}
- M F16H 2059/0243 . . . {with push buttons, e.g. shift buttons arranged on steering wheel ~~(range selection with push buttons F16H 59/12)~~}
- M F16H 2059/026 . . {Details or special features of the selector casing or lever support ~~(for mechanical gear shifting F16H 59/042)~~}
- U F16H 61/00 Control functions within {control units of} change-speed- or reversing-gearings for conveying rotary motion {; Control of exclusively fluid gearing, friction gearing, gearings with endless flexible members or other particular types of gearing}**
- U F16H 61/0021 . {Generation or control of line pressure}
- M F16H 2061/0037 . . {characterised by controlled fluid supply to lubrication circuits of the gearing ~~(see also lubrication control F16H 57/0446)~~}
- M F16H 2061/004 . . {Venting trapped air from hydraulic systems ~~(venting of hydrostatic transmissions F16H 61/4174; deaeration or removal of unsolved gas F15B 21/044)~~}
- U F16H 2061/0068 . {Method or means for testing of transmission controls or parts thereof}
- M F16H 2061/0071 . . {Robots or simulators for testing control functions in automatic transmission ~~(testing of transmissions G01M 13/02)~~}
- U F16H 61/04 . Smoothing ratio shift
- M F16H 2061/0477 . . {by suppression of excessive engine flare or turbine racing during shift transition ~~(engine flare caused by lock-up release F16H 61/143)~~}
- U F16H 61/12 . Detecting malfunction or potential malfunction, e.g. fail safe (in control of hydrostatic gearing [F16H 61/4192](#)); {Circumventing or fixing failures}
- M F16H 2061/1204 . . {for malfunction caused by simultaneous engagement of different ratios resulting in transmission lock state or tie-up condition ~~(lock state for braking F16H 61/0059)~~}
- U F16H 61/22 . Locking {of the control input devices} (constructional features of locking or disabling mechanisms [F16H 63/34](#))
- M F16H 2061/226 . . {Manual distress release of the locking means for shift levers, e.g. to allow towing of vehicle in case of breakdown ~~(for parking locks F16H 63/3491)~~}

- U F16H 61/66 · specially adapted for continuously variable gearings (control of exclusively fluid gearing [F16H 61/38](#))
- U F16H 2061/6604 · {Special control features generally applicable to continuously variable gearings}
- M F16H 2061/6607 · · {Controls concerning lubrication or cooling (~~lubrication features of friction gearings F16H 57/0487~~)}
- U F16H 63/00** **Control outputs {from the control unit} to change-speed- or reversing-gearings for conveying rotary motion {or to other devices than the final output mechanism}**
- U F16H 63/02 · Final output mechanisms therefor; Actuating means for the final output mechanisms
- U F16H 63/30 · · Constructional features of the final output mechanisms
- U F16H 63/304 · · · {the final output mechanisms comprising elements moved by electrical or magnetic force (band brake actuating mechanisms [F16H 63/3003](#))}
- M F16H 2063/3046 · · · {using electromagnetic clutch for coupling gear wheel to shaft (~~friction clutches F16H 63/3043~~)}
- M F16H 2063/3093 · · · {Final output elements, i.e. the final elements to establish gear ratio, e.g. dog clutches or other means establishing coupling to shaft (~~fluid actuated clutches F16H 63/3026; electromagnetic clutches F16H 2063/3046~~)}

**Project: MP12136 (F16H)**

- U F16H 2302/00** **Determining the way or trajectory to new ratio, e.g. by determining speed, torque or time parameters for shift transition**
- M F16H 2302/04 · Determining a modus for shifting (~~selection of shift speed modus F16H 2059/0226~~)

**Project: MP12186 (F16H)**

- M F16H 2302/06 · Determining timing parameters of shifting, e.g. start of shifting (~~for smoothing gear shift F16H 61/08~~)

**Project: MP12136 (F16H)**

- U F16H 2306/00** **Shifting**
- M F16H 2306/14 · Skipping gear shift (~~for smoothing gear shift F16H 2061/0444~~)

**Project: MP12186 (F16H)**

- M F16H 2306/20 · Timing of gear shifts (~~for smoothing gear shift F16H 61/08~~)

**Project: MP12136 (F16H)**

- M F16H 2306/21 · · for auxiliary gear shifts (~~for smoothing auxiliary gear shifts F16H 2061/085~~)
- M F16H 2306/22 · Swap shifting (~~for smoothing gear shift F16H 2061/0451~~)
- M F16H 2306/30 · characterised by the way or trajectory to a new ratio, e.g. by performing shift according to a particular algorithm or function (~~determining the way or trajectory to a new ratio F16H 2302/00~~)

**Project: MP12186 (F16H)**

- M F16H 2306/36 · Filling the dead volume of actuators (~~controlling filling of clutches or brake servos F16H 61/62~~)

**Project: MP12136 (F16H)**

- U F16H 2312/00 **Driving activities**
- M F16H 2312/09 · Switching between forward and reverse ~~(rocking F16H 2312/08)~~

**Project: Unknown (F17C)**

- U F17C 2265/00 **Effects achieved by gas storage or gas handling**
- U F17C 2265/06 · Fluid distribution
- M F17C 2265/063 · · for supply of ~~refueling~~ **refuelling** stations
- M F17C 2265/065 · · for ~~refueling~~ **refuelling** vehicle fuel tanks

**Project: MP12186 (F23C)**

- U F23C 2900/00 **Special features of, or arrangements for combustion apparatus using fluid fuels or solid fuels suspended in air; Combustion processes therefor**
- M F23C 2900/03003 · Annular combustion chambers ~~(for gas turbines F23R 3/50)~~

**Project: MP12186 (F23D)**

- U F23D 2900/00 **Special features of, or arrangements for burners using fluid fuels or solid fuels suspended in a carrier gas**
- M F23D 2900/00006 · Liquid fuel burners using pure oxygen or O<sub>2</sub>-enriched air as oxidant ~~(for gaseous fuels F23D 14/32)~~

**Project: MP12136 (F23G)**

- U F23G 2900/00 **Special features of, or arrangements for incinerators**
- M F23G 2900/00001 · Exhaust gas recirculation ~~(using the heat thereof F23G 2206/10)~~

**Project: MP12136 (F23H)**

- U F23H 2900/00 **Special features of combustion grates**
- M F23H 2900/09041 · Vibrating grates for solid fuels ~~(specially adapted for incinerators F23G 2203/107)~~

**Project: MP12136 (F23J)**

- M F23J 2215/00 **Preventing emissions** ~~(solids only F23J 2217/00)~~
- U F23J 2900/00 **Special arrangements for conducting or purifying combustion fumes; Treatment of fumes or ashes**
- M F23J 2900/01002 · Cooling of ashes from the combustion chamber by indirect heat exchangers ~~(for preheating air F23L 2900/15041)~~

**Project: MP12136 (F23M)**

- U F23M 2900/00 **Special features of, or arrangements for combustion chambers**
- M F23M 2900/09062 · Tube-shaped baffles confining the flame ~~(flame tubes forming part of the burner head F23D 2900/11403)~~

**Project: MP12136 (F23R)**

- U F23R 2900/00 **Special features of, or arrangements for continuous combustion chambers; Combustion processes therefor**
- M F23R 2900/00008 · Combustion techniques using plasma gas ~~(plasma torches F23R 2900/00009)~~

**Project: MP12186 (F23R)**

- M F23R 2900/00014 · Reducing thermo-acoustic vibrations by passive means, e.g. by Helmholtz resonators ~~(silence apparatus using resonance F01N 1/023)~~

**Project: MP12136 (F23R)**

- M F23R 2900/03043 · Convection cooled combustion chamber walls with means for guiding the cooling air flow ~~(means for creating turbulence F23R 2900/03045)~~

**Project: RP0758-F (F24D)**

- U F24D 19/00** **Details (of water or air heaters [F24H 9/00](#); of heat-exchange or heat-transfer apparatus, of general application [F28F](#))**

- M F24D 19/10 · Arrangement or mounting of control or safety devices (only the heater being controlled [F24H 9/20](#))

**WARNING**

Group F24D 19/10 is impacted by reclassification into groups F24H 15/00–F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/1003 · · {for steam heating systems}

**WARNING**

Group F24D 19/1003 is impacted by reclassification into groups F24H 15/00–F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/1006 · · {for water heating systems}

**WARNING**

Group F24D 19/1006 is impacted by reclassification into groups F24H 15/00–F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/1009 · · · {for central heating}

**WARNING**

Group F24D 19/1009 is impacted by reclassification into groups F24H 15/00–F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/1012 · · · · {by regulating the speed of a pump}

**WARNING**

Group F24D 19/1012 is impacted by reclassification into groups F24H 15/00–F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/1015 · · · · {using a valve or valves}

**WARNING**

Group F24D 19/1015 is impacted by reclassification into groups F24H 15/00–F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/1018 . . . . {Radiator valves}
- WARNING  
Group F24D 19/1018 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24D 19/1021 . . . . {a by pass valve}
- WARNING  
Group F24D 19/1021 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24D 19/1024 . . . . {a multiple way valve}
- WARNING  
Group F24D 19/1024 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24D 19/1027 . . . . {hand operated}
- WARNING  
Group F24D 19/1027 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24D 19/103 . . . . {bimetal operated}
- WARNING  
Group F24D 19/103 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24D 19/1033 . . . . {motor operated}
- WARNING  
Group F24D 19/1033 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24D 19/1036 . . . . {Having differential pressure measurement facilities}
- WARNING  
Group F24D 19/1036 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24D 19/1039 . . . . {the system uses a heat pump}
- WARNING  
Group F24D 19/1039 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24D 19/1042 . . . {the system uses solar energy}

WARNING

Group F24D 19/1042 is impacted by reclassification into groups F24H 15/00 - F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24D 19/1045 . . . {the system uses a heat pump and solar energy}

WARNING

Group F24D 19/1045 is impacted by reclassification into groups F24H 15/00 - F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24D 19/1048 . . . {Counting of energy consumption}

WARNING

Group F24D 19/1048 is impacted by reclassification into groups F24H 15/00 - F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24D 19/1051 . . . {for domestic hot water}

WARNING

Group F24D 19/1051 is impacted by reclassification into groups F24H 15/00 - F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24D 19/1054 . . . {the system uses a heat pump}

WARNING

Group F24D 19/1054 is impacted by reclassification into groups F24H 15/00 - F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24D 19/1057 . . . {the system uses solar energy}

WARNING

Group F24D 19/1057 is impacted by reclassification into groups F24H 15/00 - F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24D 19/106 . . . {the system uses a heat pump and solar energy}

WARNING

Group F24D 19/106 is impacted by reclassification into groups F24H 15/00 - F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

M	F24D 19/1063	<ul style="list-style-type: none"> <li>• • • {counting of energy consumption}</li> </ul> <p style="color: red; margin-top: 10px;"><u>WARNING</u> Group F24D 19/1063 is impacted by reclassification into groups F24H 15/00 – F24H 15/493. All groups listed in this Warning should be considered in order to perform a complete search.</p>
M	F24D 19/1066	<ul style="list-style-type: none"> <li>• • • {for the combination of central heating and domestic hot water}</li> </ul> <p style="color: red; margin-top: 10px;"><u>WARNING</u> Group F24D 19/1066 is impacted by reclassification into groups F24H 15/00 – F24H 15/493. All groups listed in this Warning should be considered in order to perform a complete search.</p>
M	F24D 19/1069	<ul style="list-style-type: none"> <li>• • • {regulation in function of the temperature of the domestic hot water}</li> </ul> <p style="color: red; margin-top: 10px;"><u>WARNING</u> Group F24D 19/1069 is impacted by reclassification into groups F24H 15/00 – F24H 15/493. All groups listed in this Warning should be considered in order to perform a complete search.</p>
M	F24D 19/1072	<ul style="list-style-type: none"> <li>• • • {the system uses a heat pump}</li> </ul> <p style="color: red; margin-top: 10px;"><u>WARNING</u> Group F24D 19/1072 is impacted by reclassification into groups F24H 15/00 – F24H 15/493. All groups listed in this Warning should be considered in order to perform a complete search.</p>
M	F24D 19/1075	<ul style="list-style-type: none"> <li>• • • {the system uses solar energy}</li> </ul> <p style="color: red; margin-top: 10px;"><u>WARNING</u> Group F24D 19/1075 is impacted by reclassification into groups F24H 15/00 – F24H 15/493. All groups listed in this Warning should be considered in order to perform a complete search.</p>
M	F24D 19/1078	<ul style="list-style-type: none"> <li>• • • {the system uses a heat pump and solar energy}</li> </ul> <p style="color: red; margin-top: 10px;"><u>WARNING</u> Group F24D 19/1078 is impacted by reclassification into groups F24H 15/00 – F24H 15/493. All groups listed in this Warning should be considered in order to perform a complete search.</p>
M	F24D 19/1081	<ul style="list-style-type: none"> <li>• • • {counting of energy consumption}</li> </ul> <p style="color: red; margin-top: 10px;"><u>WARNING</u> Group F24D 19/1081 is impacted by reclassification into groups F24H 15/00 – F24H 15/493. All groups listed in this Warning should be considered in order to perform a complete search.</p>
M	F24D 19/1084	<ul style="list-style-type: none"> <li>• • {for air heating systems}</li> </ul> <p style="color: red; margin-top: 10px;"><u>WARNING</u> Group F24D 19/1084 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.</p>

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/1087
- • {system using a heat pump}

**WARNING**

Group F24D 19/1087 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/109
- • {system using solar energy}

**WARNING**

Group F24D 19/109 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/1093
- • {system using a heat pump and solar energy}

**WARNING**

Group F24D 19/1093 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

- M F24D 19/1096
- • {for electric heating systems}

**WARNING**

Group F24D 19/1096 is impacted by reclassification into groups F24H 15/00 – F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

**Project: RP0758-F (F24H)**

**U F24H 9/00 Details**

- U F24H 9/18
- Arrangement or mounting of grates or heating means

- M F24H 9/1809
- • for water heaters

**WARNING**

Group F24H 9/1809 is impacted by reclassification into group F24H 9/1832. Groups F24H 9/1809 and F24H 9/1832 should be considered in order to perform a complete search.

- M F24H 9/1832
- • Arrangement or mounting of combustion heating means, e.g. grates or burners

**WARNING**

Group F24H 9/1832 is incomplete pending reclassification of documents from group F24H 9/1809.

Groups F24H 9/1809 and F24H 9/1832 should be considered in order to perform a complete search.

- M F24H 9/1854
- • for air heaters

**WARNING**

Group F24H 9/1854 is impacted by reclassification into group F24H 9/1877. Groups F24H 9/1854 and F24H 9/1877 should be considered in order to perform a complete search.

- M F24H 9/1877
- • • Arrangement or mounting of combustion heating means, e.g. grates or burners
- WARNING  
Group F24H 9/1877 is incomplete pending reclassification of documents from group F24H 9/1854.  
Groups F24H 9/1854 and F24H 9/1877 should be considered in order to perform a complete search.
- M F24H 9/20
- Arrangement or mounting of control or safety devices
- WARNING  
Group F24H 9/20 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24H 9/2007
- • {for water heaters}
- WARNING  
Group F24H 9/2007 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24H 9/2014
- • • {using electrical energy supply}
- WARNING  
Group F24H 9/2014 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24H 9/2021
- • • • {Storage heaters}
- WARNING  
Group F24H 9/2021 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24H 9/2028
- • • • {Continuous-flow heaters}
- WARNING  
Group F24H 9/2028 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24H 9/2035
- • • {using fluid fuel}
- WARNING  
Group F24H 9/2035 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24H 9/2042
- • • • {Preventing or detecting the return of combustion gases}
- WARNING  
Group F24H 9/2042 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.

All groups listed in this Warning should be considered in order to perform a complete search.

M F24H 9/205 . . . . {Closing the energy supply}

WARNING

Group F24H 9/205 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.

M F24H 9/2057 . . . {using solid fuel}

WARNING

Group F24H 9/2057 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.

M F24H 9/2064 . . {for air heaters}

WARNING

Group F24H 9/2064 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.

M F24H 9/2071 . . . {using electrical energy supply}

WARNING

Group F24H 9/2071 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.

M F24H 9/2078 . . . . {Storage heaters}

WARNING

Group F24H 9/2078 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.

M F24H 9/2085 . . . {using fluid fuel}

WARNING

Group F24H 9/2085 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.

M F24H 9/2092 . . . {using solid fuel}

WARNING

Group F24H 9/2092 is impacted by reclassification into groups F24H 9/25, F24H 9/28, and F24H 15/00 – F24H 15/493.  
All groups listed in this Warning should be considered in order to perform a complete search.

- M F24H 9/25
- of remote control devices or control-panels
- WARNING**  
Groups F24H 9/25 and F24H 9/28 are incomplete pending reclassification of documents from groups F24H 9/20, F24H 9/2007, F24H 9/2014, F24H 9/2021, F24H 9/2028, F24H 9/2035, F24H 9/2042, F24H 9/205, F24H 9/2057, F24H 9/2064, F24H 9/2071, F24H 9/2078, F24H 9/2085, and F24H 9/2092.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24H 9/40
- Arrangements for preventing corrosion
- WARNING**  
Groups F24H 9/40, F24H 9/455, and F24H 9/457 are incomplete pending reclassification of documents from group F24H 9/45.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24H 9/45
- for preventing galvanic corrosion, e.g. cathodic or electrolytic means
- WARNING**  
Group F24H 9/45 is impacted by reclassification into groups F24H 9/40, F24H 9/455, and F24H 9/457.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M F24H 15/00**
- Control of fluid heaters**
- WARNING**  
Groups F24H 15/00 - F24H 15/493 are incomplete pending reclassification of documents from groups F24D 19/10 - F24D 19/1096 and F24H 9/20 - F24H 9/2092.  
All groups listed in this Warning should be considered in order to perform a complete search.

**Project: MP12186 (F27D)**

- U F27D 1/00** Casings; Linings; Walls; Roofs (refractory materials [C04B](#); firebridges for combustion chambers [F23M 3/00](#))
- M F27D 2001/0046
- {Means to facilitate repair or replacement or prevent quick wearing (~~repairing linings F27D 1/16~~)}
- M F27D 2001/0053
- {Furnace constructed in modules (~~tunnel furnaces with add-on modules F27B 9/029~~)}

**Project: MP12136 (F27D)**

- U F27D 2001/0059
- {Construction elements of a furnace}
- M F27D 2001/0066
- {Movable or removable parts (~~removable parts for replacement because of wearing F27D 2001/005~~)}

**Project: MP12186 (F27D)**

- M F27D 2001/0069
- {Means to prevent heat conduction (~~heat shields F27D 1/0033~~)}
- M F27D 2001/0079
- {Means to assemble at least two parts of a furnace or of any device or accessory associated to its use (~~assembling elements for linings parts F27D 1/145~~)}

- M F27D 2001/0083 · · {Means to assemble a moving part to a fixed one ~~(movements due to thermal expansion F27D-1/0003; movements of the cover F27D-1/18; movements of the container or of the support of the charge F27D-2003/0085)}~~}

**Project: MP12136 (F27D)**

- U F27D 1/18 · Door frames; Doors, lids, removable covers
- U F27D 1/1858 · · {Doors}
- M F27D 2001/1875 · · · {Hanging doors and walls ~~(movable partitions F27D-2099/0071)}~~}
- U F27D 3/00 Charging; Discharging; Manipulation of charge (moving charge through a furnace [F27B 9/14](#))**
- U F27D 2003/0001 · {Positioning the charge}
- M F27D 2003/0002 · · {involving positioning devices, e.g. buffers, ~~buffer zones~~ or ~~buffer zones~~ ~~(involving sensors F27D-2019/0071; involving sequence controllers F27D-2019/0059; involving spacers F27M-2002/016)}~~}
- U F27D 3/12 · Travelling or movable supports or containers for the charge
- U F27D 2003/125 · · {Charging cars, lift trolleys}
- M F27D 2003/127 · · · {for carrying pots ~~(slag pots F27D-2099/0095)}~~}
- U F27D 7/00 Forming, maintaining, or circulating atmospheres in heating chambers**
- U F27D 7/02 · Supplying steam, vapour, gases, or liquids
- M F27D 2007/026 · · {Dampers ~~(registers for granular flows F27D-2099/0071)}~~}

**Project: MP12186 (F27D)**

- U F27D 99/00 Subject matter not provided for in other groups of this subclass**
- U F27D 99/0073 · {Seals}
- U F27D 2099/0078 · · {Means to minimize the leakage of the furnace atmosphere during charging or discharging}
- M F27D 2099/008 · · · {Using an air-lock ~~(use of air-locks for charging smelt furnaces F27D-3/0032)}~~}

**Project: MP12136 (F27D)**

- U F27D 2099/0085 · {Accessories}
- M F27D 2099/0095 · · {Means to collect the slag or spilled metal, e.g. vessels ~~(cars to carry the pots F27D-2003/127)}~~}

**Project: MP12186 (F28C)**

- U F28C 1/00 Direct-contact trickle coolers, e.g. cooling towers (building construction [E04H 5/12](#); enclosed spaces cooled by trickle [F25](#); components parts of trickle coolers [F28F 25/00](#); {indirect-contact cooling towers [F28B 1/06](#))}**
- M F28C 2001/006 · {Systems comprising cooling towers, e.g. for recooling a cooling medium ~~(for condensers F28B-9/06)}~~}

**Project: MP12186 (F28D)**

- U F28D 20/00 Heat storage plants or apparatus in general; Regenerative heat-exchange apparatus not covered by groups [F28D 17/00](#) or [F28D 19/00](#)**
- U F28D 2020/0004 · {Particular heat storage apparatus}
- M F28D 2020/0017 · · {the heat storage material being enclosed in porous or cellular or fibrous structures ~~(phase-change materials F28D-20/023)}~~}

**U F28D 21/00 Heat-exchange apparatus not covered by any of the groups  
F28D 1/00 - F28D 20/00**

**NOTE**

{ Particular use of heat exchangers is classified in [F28D 21/00](#) and subgroups, whereas additionally the type of the heat exchangers is classified in the groups [F28D 1/00 - F28D 20/00](#)}

- U F28D 2021/0019 • {Other heat exchangers for particular applications; Heat exchange systems not otherwise provided for}
- M F28D 2021/0021 • • {for aircrafts or cosmonautics-~~air-treatment for aircraft B64D 13/00; temperature control of cosmonautic vehicles B64G 1/50~~}

**Project: MP12136 (F28D)**

- M F28D 2021/0026 • • {for combustion engines, e.g. for gas turbines or for Stirling engines-~~engine cooling systems F28D 2021/004~~}

**Project: MP12186 (F28D)**

- M F28D 2021/0028 • • {for cooling heat generating elements, e.g. for cooling electronic components or electric devices-~~for cooling semiconductors H01L 23/34, for cooling electric apparatus H05K 7/20~~}
- M F28D 2021/0033 • • {for cryogenic applications-~~air separation F25J 3/04, cold heat exchange systems F25J 1/0262~~}

**Project: MP12136 (F28D)**

- M F28D 2021/0035 • • {for domestic or space heating, e.g. heating radiators-~~for vehicles F28D 2021/0096~~}

**Project: MP12186 (F28D)**

- M F28D 2021/0038 • • {for drying or dehumidifying gases or vapours-~~by refrigeration B01D 53/265~~}
- M F28D 2021/004 • • {for engine or machine cooling systems-~~for vehicles F28D 2021/0094; marine radiators F28D 1/022~~}
- M F28D 2021/0043 • • {for fuel cells-~~heat exchange in fuel cell H01M 8/04007~~}
- M F28D 2021/0045 • • {for granular materials-~~fluidised beds F28D 13/00~~}

**Project: MP12136 (F28D)**

- M F28D 2021/0049 • • {for lubricants, e.g. oil coolers-~~for vehicles F28D 2021/0089~~}

**Project: MP12186 (F28D)**

- M F28D 2021/005 • • {for medical applications-~~heating or cooling appliances for medical treatment A61F 7/00~~}
- M F28D 2021/0054 • • {for nuclear applications-~~cooling arrangements for nuclear reactors G21C 15/00~~}
- M F28D 2021/0056 • • {for ovens or furnaces-~~for boilers F28D 2021/0024, arrangements for using waste heat in furnaces F27D 17/00~~}
- M F28D 2021/0061 • • {for phase-change applications-~~for refrigerant cycles F28D 2021/0068; heat pipes F28D 15/02~~}
- M F28D 2021/0063 • • • {Condensers-~~steam or vapour condensers F28B~~}
- U F28D 2021/0068 • • {for refrigerant cycles}

- M F28D 2021/007 . . . {Condensers ~~(for vehicles F28D 2021/0084; for compression systems F25B 39/04, cold exchangers for separating constituents of gaseous mixtures F25J 3/06)}~~}
- M F28D 2021/0071 . . . {Evaporators ~~(for vehicles F28D 2021/0085, for compression systems F25B 39/02)}~~}
- M F28D 2021/0075 . . . {for syngas or cracked gas cooling systems ~~(cooling of cracked gas C10G 9/002)}~~}

**Project: MP12136 (F28D)**

- M F28D 2021/008 . . . {for vehicles ~~(for aircrafts F28D 2021/0021)}~~}

**Project: MP12186 (F28D)**

- M F28D 2021/0082 . . . {Charged air coolers ~~(cooling of air intake supply F02B 29/04)}~~}
- M F28D 2021/0087 . . . {Fuel coolers ~~(apparatus for cooling fuel on vehicles F02M 31/20)}~~}
- M F28D 2021/0089 . . . {Oil coolers ~~(heating or cooling lubricants in vehicles F01M 5/00)}~~}
- U F28D 2021/0091 . . . {Radiators}
- M F28D 2021/0094 . . . . {for recooling the engine coolant ~~(arrangements of liquid-to-air heat exchangers on vehicles F01P 3/18)}~~}
- M F28D 2021/0096 . . . . {for space heating ~~(for air-conditioning in vehicles B60H 1/00321)}~~}

**Project: MP12136 (F28D)**

- M F28D 2021/0098 . . . {for viscous or semi-liquid materials, e.g. for processing sludge ~~(for foodstuffs F28D 2021/0042)}~~}

**Project: MP12136 (F28F)**

- U F28F 13/00 **Arrangements for modifying heat-transfer, e.g. increasing, decreasing (F28F 1/00 - F28F 11/00 take precedence)**
- M F28F 2013/001 . . . {Particular heat conductive materials, e.g. superconductive elements ~~(for thermal joints F28F 2013/006)}~~}

**Project: MP12186 (F28F)**

- M F28F 2200/00 **Prediction; Simulation; Testing (measuring quantity of heat conveyed by flowing mediums G01K 17/06)**
- U F28F 2215/00 **Fins**
- M F28F 2215/08 . . . with openings, e.g. louvers ~~(zig-zag fins with openings F28F 1/128, common transversal fins with openings F28F 1/325, corrugated fins with openings F28F 3/027)~~
- M F28F 2250/00 **Arrangements for modifying the flow of the heat exchange media, e.g. flow guiding means (in general F28F 13/06), e.g. flow guiding means (in casings F28F 9/22); Particular flow patterns**

**Project: MP12136 (F28F)**

- M F28F 2260/00 **Heat exchangers or heat exchange elements having special size, e.g. microstructures (microheat pipes F28D 2015/0225; nanostructures F28F 2255/20)**

**Project: MP12186 (F28F)**

- M F28F 2265/00 **Safety or protection arrangements; Arrangements for preventing malfunction ~~(control or monitoring devices F28F 27/00)~~**

**Project: MP12136 (F28F)**

- M F28F 2265/02 · in the form of screens or covers ~~(heat shields F28F-2265/10)~~
- M F28F 2265/10 · for preventing overheating, e.g. heat shields ~~(thermal insulation F28F-2270/00)~~

**Project: MP12186 (F28F)**

- M F28F 2265/26 · for allowing differential expansion between elements ~~(floating header box elements F28F-9/0236)~~

**Project: MP12136 (F28F)**

- M F28F 2265/28 · for preventing noise ~~(by preventing vibrations F28F-2265/30)~~

**U F28F 2275/00 Fastening; Joining**

- M F28F 2275/02 · by using bonding materials ~~(brazing F28F-2275/04)~~; by embedding elements in particular materials

**Project: MP12186 (F28F)**

- M F28F 2275/04 · by brazing ~~(brazing heat exchangers B23K-1/0012)~~

**Project: MP12136 (F28F)**

- M F28F 2275/06 · by welding ~~(welding heat exchangers B23K-2101/14)~~

**Project: MP12186 (F28F)****U F28F 2280/00 Mounting arrangements; Arrangements for facilitating assembling or disassembling of heat exchanger parts**

- M F28F 2280/10 · Movable elements, e.g. being pivotable ~~(elements specially adapted for movements F28F-5/00)~~

**Project: MP12111 (G01J)****U G01J 5/00 Radiation pyrometry, e.g. infrared or optical thermometry**WARNING

Group [G01J 5/00](#) is impacted by reclassification into group [G01J 5/90](#). Groups [G01J 5/00](#) and [G01J 5/90](#) should be considered in order to perform a complete search.

- M G01J 2005/0092 · {Temperature by averaging, e.g. by scan ~~(thermography G01J-5/48)}~~

**Project: MP12111 (G01N)****U G01N 21/00 Investigating or analysing materials by the use of optical means, i.e. using sub-millimetre waves, infrared, visible or ultraviolet light ([G01N 3/00](#) - [G01N 19/00](#) take precedence)**NOTE

This group does not cover the investigation of spectral properties of light per se, or measurements of the properties of materials where spectral properties of light are sensed and primary emphasis is placed on creating, detecting or analysing the spectrum providing that the properties of the materials to be investigated are of minor importance. Those subjects are covered by group [G01J 3/00](#).

- U G01N 21/01 · Arrangements or apparatus for facilitating the optical investigation
- U G01N 21/13 · · Moving of cuvettes or solid samples to or from the investigating station   
 {(handling materials for automatic analysis [G01N 35/00](#))}
- M G01N 2021/135 · · {Sample holder displaceable ~~(in automatised apparatus G01N-35/02)}~~

- U G01N 21/17 · Systems in which incident light is modified in accordance with the properties of the material investigated (where the material investigated is optically excited causing a change in wavelength of the incident light [G01N 21/63](#))
- U G01N 21/1702 · · {with opto-acoustic detection, e.g. for gases or analysing solids}
- M G01N 2021/1708 · · · {with piezotransducers ~~{probes for investigating or analysing materials by the use of ultrasonic, sonic or infrasonic waves G01N 29/24}~~}
- M G01N 2021/1757 · · {Time modulation of light being essential to the method of light modification, e.g. using single detector ~~{circuits for photometry with modulation, using one detector G01J 1/44}~~}
- U G01N 21/84 · Systems specially adapted for particular applications
- U G01N 21/85 · · Investigating moving fluids or granular solids
- M G01N 2021/8578 · · · {Gaseous flow ~~{IR analysers G01N 21/8507}~~}
- U G01N 21/86 · · Investigating moving sheets ([G01N 21/89](#) takes precedence)
- M G01N 2021/8663 · · · {Paper, e.g. gloss, moisture content ~~{inspecting the presence of flaws in moving materials, e.g. paper G01N 21/89; measurement of gloss in general G01N 21/57}~~}
- U G01N 21/88 · · Investigating the presence of flaws or contamination
- U G01N 21/8806 · · · {Specially adapted optical and illumination features}
- M G01N 2021/8829 · · · · {Shadow projection or structured background, e.g. for deflectometry ~~{three-dimensional metrology of surfaces G01B 11/25}~~}
- U G01N 21/94 · · · Investigating contamination, e.g. dust ([G01N 21/85](#) takes precedence)
- M G01N 2021/945 · · · · {Liquid or solid deposits of macroscopic size on surfaces, e.g. drops, films, or clustered contaminants ~~{dust particles and microscopic contaminants in G01N 21/94}~~}
- U G01N 21/95 · · · characterised by the material or shape of the object to be examined ([G01N 21/89](#) - [G01N 21/91](#), [G01N 21/94](#) take precedence)
- M G01N 2021/9511 · · · · {Optical elements other than lenses, e.g. mirrors ~~{testing of optical apparatus in G01M 11/00}~~}

**Project: MP12188 (G01N)**

- U G01N 2333/00 Assays involving biological materials from specific organisms or of a specific nature**

NOTE

In groups [G01N 2333/47](#) - [G01N 2333/994](#) indexing codes are assigned according to the chemical nature of the materials irrespective of the source organism.

- U G01N 2333/005 · from viruses
- U G01N 2333/08 · · RNA viruses
- U G01N 2333/18 · · · Togaviridae; Flaviviridae
- M G01N 2333/181 · · · · Alphaviruses or Group A arboviruses, e.g. sindbis, VEE, EEE, WEE or semliki forest virus ~~{rubella virus G01N 2333/19}~~

- U G01N 2333/195 · from bacteria

NOTE

In groups [G01N 2333/20](#) - [G01N 2333/365](#), where appropriate, after the bacteria terminology, the indication of the order (O), family (F) or genus (G) of the bacteria is given in brackets.

- U G01N 2333/315 · · from Streptococcus (G), e.g. Enterococci

- M G01N 2333/3156 . . . from Streptococcus pneumoniae (~~Pneumococcus~~)  
[~~Pneumococcus~~](Streptokinase G01N 2333/3153)
- U G01N 2333/435 . from animals; from humans
- M G01N 2333/575 . . Hormones (~~derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin G01N 2333/665, corticotropin G01N 2333/695~~)
- U G01N 2333/705 . . Assays involving receptors, cell surface antigens or cell surface determinants
- M G01N 2333/70575 . . . NGF/TNF-superfamily, e.g. CD70, CD95L, CD153 or CD154 (~~NGF G01N 2333/48, TNF G01N 2333/525~~)
- M G01N 2333/70578 . . . NGF-receptor/TNF-receptor superfamily, e.g. CD27, CD30 CD40 or CD95  
(~~NGF-receptor G01N 2333/71, TNF-receptor G01N 2333/7151~~)
- M G01N 2333/72 . . . for hormones (~~for neuromediators G01N 2333/70571~~)
- U G01N 2400/00 Assays, e.g. immunoassays or enzyme assays, involving carbohydrates**
- M G01N 2400/02 . involving antibodies to sugar part of glycoproteins (~~lectins from plants G01N 2333/42, lectins from mammals G01N 2333/4724~~)
- U G01N 2400/10 . Polysaccharides, i.e. having more than five saccharide radicals attached to each other by glycosidic linkages; Derivatives thereof, e.g. ethers, esters
- M G01N 2400/38 . . Heteroglycans, i.e. polysaccharides having more than one sugar residue in the main chain in either alternating or less regular sequence, e.g. gluco- or galactomannans, e.g. Konjac gum, Locust bean gum; ~~or~~ Guar gum  
(~~proteoglycans G01N 2333/4722~~)
- M G01N 2405/00 Assays, e.g. immunoassays or enzyme assays, involving lipids  
(lipopolysaccharides G01N 2400/50)**
- U G01N 2496/00 Reference solutions for assays of biological material**
- M G01N 2496/25 . containing added polymers to stabilise biological material against degradation or ~~maintain~~ *maintain* viscosity or density, e.g. gelatin, polyacrylamides; ~~or~~ polyvinyl alcohol (~~casein G01N 2333/4731, albumins G01N 2333/76, polysaccharides G01N 2400/10~~)
- M G01N 2496/45 . containing protease inhibitors, e.g. sulfonylfluorides, chloromethylketones; ~~organophosphates~~ *organophosphates* (~~peptide-based protease inhibitors G01N 2333/81~~)
- U G01N 2800/00 Detection or diagnosis of diseases**
- NOTES**
1. The indexing codes [G01N 2800/02](#) - [G01N 2800/44](#) are based on The Merck Manual of Diagnosis and Therapy (17th. Edition, Mark Beers and Robert Berkow).
  2. For diseases caused by microorganism where the microorganism is detected, which subject matter is classified in [G01N 33/569](#) and subgroups, [G01N 33/571](#) or [G01N 33/576](#), the present indexing scheme is not used.
  3. For cancers, which subject matter is classified in [G01N 33/574](#) and subgroups, the present indexing scheme is not used.
  4. When indexing in the following scheme, the organ takes precedence, e.g. inflammation of the skin is indexed with dermatological disorders and not with immunology or allergic disorders, asthma with pulmonary disorders and not with immunology or allergic disorders. Exception is made for thrombosis which is indexed with haematological disorders.
- M G01N 2800/24 . Immunology or allergic disorders (~~SLE G01N 2800/104~~)

**Project: MP12111 (G01S)**

- U G01S 15/00**      **Systems using the reflection or reradiation of acoustic waves, e.g. sonar systems**
- NOTES
- This group covers :
    - systems for detecting the presence of an object, e.g. by reflection or reradiation from the object itself, or from a transponder associated with the object, for determining the distance or relative velocity of an object, for providing a co-ordinated display of the distance and direction of an object or for obtaining an image thereof;
    - systems arranged for mounting on a moving craft or vehicle and using the reflection of waves from an extended surface external to the craft, e.g. the surface of the earth, to determine the velocity and direction of motion of the craft relative to the surface.
  - This group does not cover :
    - systems for determining the direction of an object by means not employing reflection or reradiation, which are covered by groups [G01S 1/00](#) or [G01S 3/00](#);
    - systems for determining distance or velocity of an object by means not employing reflection or reradiation, which are covered by group [G01S 11/00](#).
- U G01S 15/88      · Sonar systems specially adapted for specific applications (seismic or acoustic prospecting or detecting [G01V 1/00](#))
- U G01S 15/93      · · for anti-collision purposes
- U G01S 15/931      · · · of land vehicles
- M G01S 2015/937      · · · · {sensor installation details (~~constructional features of transducers G01S 7/521 and B06B; casing of transducers, e.g. housing, cover or filler details, G10K 9/22; mounting of transducers, i.e. fixture, fitting or holder details, G10K 11/004~~)}
- M G01S 2015/938      · · · · {in the bumper area (~~radar in bumper area G01S 2013/93275; bumper with obstacle sensor of electric or electronic type B60R 19/483~~)}

**Project: MP12188 (G01V)**

- U G01V 2210/00**      **Details of seismic processing or analysis**
- M G01V 2210/20      · Trace signal pre-filtering to select, remove or transform specific events or signal components, i.e. trace-in/trace-out (~~removing noise G01V 2210/32~~)
- M G01V 2210/30      · Noise handling (~~trace signal pre-filtering G01V 2210/20~~)
- M G01V 2210/34      · · Noise estimation (~~quality control G01V 2200/14~~)
- M G01V 2210/40      · Transforming data representation (~~for pre-filtering purposes G01V 2210/20~~)
- M G01V 2210/50      · Corrections or adjustments related to wave propagation (~~noise handling G01V 2210/30~~)

**Project: MP12111 (G03B)**

- U G03B 2205/00**      **Adjustment of optical system relative to image or object surface other than for focusing**
- M G03B 2205/0007      · Movement of one or more optical elements for control of motion blur (~~imaging systems in general using optical elements for stabilisation of the position of the image G02B 27/64~~)
- M G03B 2205/0038      · · by displacing the image plane with respect to the optical axis (~~in case of an electronic image sensor H04N 23/68~~)

- M G03B 2205/0046 · Movement of one or more optical elements for zooming ~~(for optical zoom lenses in general G02B 7/10)~~

**Project: MP12188 (G03G)**

- U G03G 2215/00 Apparatus for electrophotographic processes**
- U G03G 2215/04 · Arrangements for exposing and producing an image
- M G03G 2215/0426 · · Editing of the image, e.g. adding or deleting ~~(correction, i.e. changing or enhancing the image G03G 2215/0429)~~
- U G03G 2221/00 Processes not provided for by group G03G 2215/00, e.g. cleaning or residual charge elimination**
- U G03G 2221/16 · Mechanical means for facilitating the maintenance of the apparatus, e.g. modular arrangements and complete machine concepts
- M G03G 2221/1648 · · using seals, e.g. to prevent scattering of toner ~~(light shields for the photoreceptor G03G 2221/1609)~~

**Project: MP12188 (G03H)**

- U G03H 1/00 Holographic processes or apparatus using light, infrared or ultraviolet waves for obtaining holograms or for obtaining an image from them; Details peculiar thereto**
- U G03H 1/0005 · {Adaptation of holography to specific applications (holographic optical element [G02B 5/32](#); holographic scanner [G02B 26/106](#); recognition using holographic mask [G06V 10/88](#); holographic memories [G11B 7/0065](#), [G11C 13/042](#))}
- U G03H 1/0011 · · {for security or authentication (holograms on information-bearing cards [B42D 25/328](#); testing papers with holograms [G07D 7/0032](#))}
- M G03H 2001/0016 · · · {Covert holograms or holobjects requiring additional knowledge to be perceived, e.g. holobject reconstructed only under IR illumination ~~(microholograms G03H 2230/10)~~}

**Project: MP12111 (G03H)**

- M G03H 2001/0022 · · · {Deciphering being performed with numerical or optical key, e.g. with the optical scrambler used during recording ~~(optical element in object beam G03H 1/041)~~}
- U G03H 2001/0033 · · {in hologrammetry for measuring or analysing}
- M G03H 2001/0038 · · · {analogue or digital holobjects ~~(holographic interferometry G01B 9/021; investigating particles G01N 15/0227)~~}
- M G03H 2001/0044 · · · {holographic fringes deformations; holographic sensors ~~(holographic rain sensor in vehicles B60S 1/084)~~}
- M G03H 2001/005 · · {in microscopy, e.g. digital holographic microscope [DHM] ~~(microscopes G02B 21/00; digital holography G03H 1/0866)~~}
- M G03H 2001/0066 · · {for wavefront matching wherein the hologram is arranged to convert a predetermined wavefront into a comprehensive wave, e.g. associative memory ~~(recognition using holographic masks G06V 10/88)~~}
- M G03H 2001/0094 · · {for patterning or machining using the holobject as input light distribution ~~(microlithography G03F 7/70283)~~}

**Project: MP12188 (G03H)**

- U G03H 1/02 · Details {of features involved during the holographic process; Replication of holograms without interference recording}
- M G03H 2001/0204 · · {Object characteristics ~~(corresponding details, see subgroups of G03H 2210/00)~~}

- U G03H 2001/0208 . . {Individual components other than the hologram}
- M G03H 2001/022 . . . {Writing means other than actinic light wave ~~(corresponding details, see subgroups of G03H 2224/00)~~}
- M G03H 2001/0224 . . . {Active addressable light modulator, i.e. Spatial Light Modulator [SLM] ~~(corresponding details, see subgroups of G03H 2225/00)~~}
- M G03H 2001/0232 . . . {Mechanical components or mechanical aspects not otherwise provided for ~~(corresponding details, see subgroups of G03H 2227/00)~~}
- U G03H 1/04 . . Processes or apparatus for producing holograms ([G03H 1/26](#) takes precedence)
- U G03H 1/0402 . . {Recording geometries or arrangements ([G03H 1/0443](#), [G03H 1/0476](#), [G03H 1/16](#) take precedence)}
- M G03H 2001/0436 . . . {Holographic camera ~~(portable device G03H 2227/02)~~}

**Project: MP12111 (G03H)**

- M G03H 2001/0439 . . . {for recording Holographic Optical Element [HOE] ~~(HOE per se G02B 5/32)~~}

**Project: MP12188 (G03H)**

- U G03H 1/0443 . . {Digital holography, i.e. recording holograms with digital recording means (holobject computation [G03H 1/0866](#))}
- M G03H 2001/0452 . . . {arranged to record an image of the object ~~(holographic microscope G03H 2001/005)~~}

**Project: MP12111 (G03H)**

- U G03H 1/18 . . Particular processing of hologram record carriers, e.g. for obtaining blazed holograms {(photographic processing in general [G03C](#), [G03D](#))}
- M G03H 2001/187 . . . {Trimming process, i.e. macroscopically patterning the hologram ~~(shape of hologram G03H 1/0236)~~}

**Project: MP12188 (G03H)**

- M G03H 2001/188 . . . . {Demetallisation, i.e. removing the enhancing metallic layer ~~(enhancement layer G03H 2250/36)~~}

**Project: MP12111 (G03H)**

- U G03H 1/22 . . Processes or apparatus for obtaining an optical image from holograms ([G03H 1/26](#) - [G03H 1/34](#) take precedence)
- U G03H 1/2202 . . {Reconstruction geometries or arrangements}
- U G03H 2001/2223 . . . {Particular relationship between light source, hologram and observer}
- M G03H 2001/2226 . . . . {Edge lit holograms ~~(TIR recording G03H 1/0408)~~}
- U G03H 1/26 . . Processes or apparatus specially adapted to produce multiple {sub-} holograms or to obtain images from them, e.g. multicolour technique
- U G03H 1/2645 . . {Multiplexing processes, e.g. aperture, shift, or wavefront multiplexing}
- M G03H 2001/2675 . . . {Phase code multiplexing, wherein the sub-holograms are multiplexed according to spatial modulation of the reference beam ~~(reference beam spatial modulation G03H 1/12)~~}
- U G03H 1/268 . . {Holographic stereogram}
- M G03H 2001/2695 . . . {Dedicated printer ~~(holographic printers G03H 1/0476)~~}

**Project: MP12188 (G03H)**

- U G03H 2210/00 **Object characteristics**

- U G03H 2210/20 · 2D object
- M G03H 2210/22 · · 2D SLM object wherein the object beam is formed of the light modulated by the SLM (~~SLM per se G03H 2001/0224~~)

**Project: MP12111 (G03H)**

- U G03H 2210/40 · Synthetic representation, i.e. digital or optical object decomposition
- U G03H 2210/44 · · Digital representation
- M G03H 2210/441 · · · Numerical processing applied to the object data other than numerical propagation (~~synthesizing propagation G03H 1/0808~~)

**Project: MP12188 (G03H)**

- U G03H 2222/00 Light sources or light beam properties**
- U G03H 2222/50 · Geometrical property of the irradiating beam
- M G03H 2222/55 · · Astigmatic beam having different focal planes (~~anamorphic optical element G03H 2223/21~~)
- U G03H 2223/00 Optical components**
- M G03H 2223/21 · Anamorphic optical element, e.g. cylindrical (~~astigmatic beam G03H 2222/55~~)

**Project: MP12111 (G03H)**

- M G03H 2223/50 · Particular location or purpose of optical element (~~downstream optical component G03H 1/2205~~)

**Project: MP12188 (G03H)**

- U G03H 2224/00 Writing means other than actinic light wave**
- M G03H 2224/06 · Thermal or photo-thermal means (~~infra red source G03H 2222/16~~)
- U G03H 2250/00 Laminate comprising a hologram layer**
- M G03H 2250/10 · arranged to be transferred onto a carrier body (~~adhesive layer G03H 2250/35~~)
- U G03H 2260/00 Recording materials or recording processes**
- M G03H 2260/50 · Reactivity or recording processes (~~writing means G03H 2001/0212; G03H 2001/022~~)
- M G03H 2260/63 · · Indirect etching, e.g. lithography (~~photoresist G03H 2260/14~~)

**Project: RP11517-F (G06F)**

- U G06F 21/00 Security arrangements for protecting computers, components thereof, programs or data against unauthorised activity**
- M G06F 21/10 · Protecting distributed programs or content, e.g. vending or licensing of copyrighted material (protection in video systems or pay television [H04N 7/16](#)); Digital rights management [DRM]

**NOTE**

{In this group, the following terms or expressions are used with the meaning indicated:

- "content" means any intellectually created work whose copyright is to be safeguarded.

}

**WARNING**

Group G06F 21/10 is impacted by reclassification into groups G06F 21/101–G06F 21/1015, G06F 21/106–G06F 21/1066, G06F 21/107–G06F 21/1079, G06F 21/108–G06F 21/1088 and G06F 21/109.

All groups listed in this Warning should be considered in order to perform a complete search.

- M G06F 21/101
  - {by binding digital rights to specific entities}
  - WARNING  
Groups G06F 21/101 - G06F 21/1015 are incomplete pending reclassification of documents from group G06F 21/10.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M G06F 21/106
  - {Enforcing content protection by specific content processing}
  - WARNING  
Groups G06F 21/106 - G06F 21/1066 are incomplete pending reclassification of documents from group G06F 21/10.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M G06F 21/107
  - {License processing; Key processing}
  - WARNING  
Groups G06F 21/107 - G06F 21/1079 are incomplete pending reclassification of documents from group G06F 21/10.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M G06F 21/108
  - {Transfer of content, software, digital rights or licenses}
  - WARNING  
Groups G06F 21/108 - G06F 21/1088 are incomplete pending reclassification of documents from group G06F 21/10.  
All groups listed in this Warning should be considered in order to perform a complete search.
- M G06F 21/109
  - {by using specially-adapted hardware at the client}
  - WARNING  
Group G06F 21/109 is incomplete pending reclassification of documents from group G06F 21/10.  
Groups G06F 21/10 and G06F 21/109 should be considered in order to perform a complete search.

### Project: MP12111 (G06F)

- U G06F 2201/00 Indexing scheme relating to error detection, to error correction, and to monitoring
- M G06F 2201/815
  - Virtual ~~(middleware or OS functionality using virtual machines to implement generic software techniques for error detection or fault masking G06F 11/1484)~~
- M G06F 2201/82
  - Solving problems relating to consistency ~~(ensuring consistency in mirrored systems G06F 11/2064)~~
- M G06F 2201/85
  - Active fault masking without idle spares ~~(active fault masking without idle spare hardware where processing functionality is redundant G06F 11/2035)~~

### Project: MP12188 (G06F)

- U G06F 2207/00 Indexing scheme relating to methods or arrangements for processing data by operating upon the order or content of the data handled
- U G06F 2207/38
  - Indexing scheme relating to groups [G06F 7/38](#) - [G06F 7/575](#)
- U G06F 2207/3804
  - Details

- U G06F 2207/3808 · · · concerning the type of numbers or the way they are handled
- U G06F 2207/3812 · · · · Devices capable of handling different types of numbers
- M G06F 2207/382 · · · · Reconfigurable for different fixed word lengths (~~multigauge devices G06F 2207/3828~~)

**Project: Unknown (G06K)**

- U G06K 17/00 **Methods or arrangements for effecting co-operative working between equipments covered by two or more of main groups G06K 1/00 - G06K 15/00, e.g. automatic card files incorporating conveying and reading operations**
- M G06K 17/0022 · {arrangements or ~~previsious~~provisions for transferring data to distant stations, e.g. from a sensing device ("transfer between computer elements G06F 13/00"; data-transmission H04L)}

**Project: MP12188 (G06Q)**

- M G06Q 2220/00 **Business processing using cryptography (~~postage metering system using cryptography G06Q 2250/05~~)**

**Project: MP12346 (G08C)**

- M G08C **TRANSMISSION SYSTEMS FOR MEASURED VALUES, CONTROL OR SIMILAR SIGNALS (fluid pressure transmitting systems F15B; mechanical means for transferring the output of a sensing member into a different variable G01D 5/00; mechanical control ~~system~~systems G05G)**

**Project: MP12188 (G10H)**

- M G10H 2210/00 **Aspects or methods of musical processing having intrinsic musical character, i.e. involving musical theory or musical parameters or relying on musical knowledge, as applied in electrophonic musical tools or instruments (~~processing aspects without intrinsic musical character G10H 2250/00~~)**
- M G10H 2210/005 · Musical accompaniment, i.e. complete instrumental rhythm synthesis added to a performed melody, e.g. as output by drum machines (~~background music G10H 2210/021~~)
- M G10H 2210/021 · Background music, e.g. for video sequences; ~~or~~ elevator music (~~musical accompaniment G10H 2210/005~~)
- M G10H 2210/031 · Musical analysis, i.e. isolation, extraction or identification of musical elements or musical parameters from a raw acoustic signal or from an encoded audio signal (~~neural networks for electrophonic musical instruments or musical processing G10H 2250/311~~)
- M G10H 2210/071 · · for rhythm pattern analysis or rhythm style recognition (~~rhythm pattern per se G10H 2210/341~~)
- M G10H 2210/076 · · for extraction of timing, tempo; Beat detection (~~tempo display G10H 2220/081; tempo control G10H 2210/375~~)
- U G10H 2210/101 · Music Composition or musical creation; Tools or processes therefor
- U G10H 2210/111 · · Automatic composing, i.e. using predefined musical rules
- M G10H 2210/115 · · · using a random process to generate a musical note, phrase, sequence or structure (~~using a random process to build a rhythm pattern G10H 2210/356; random rhythm pattern selection G10H 2210/366~~)
- U G10H 2210/155 · Musical effects

- M G10H 2210/161
- Note sequence effects, i.e. sensing, altering, controlling, processing or synthesising a note trigger selection or sequence, e.g. by altering trigger timing, triggered note values, adding improvisation or ornaments, *or* also rapid repetition of the same note onset, e.g. on a piano, guitar, e.g. rasgueado, drum-roll (smooth variations of amplitude, pitch or timbre within a note without distinct onsets, e.g. vibrato G10H 2210/201)
- M G10H 2210/191
- Tremolo, tremulando, trill or mordent effects, i.e. repeatedly alternating stepwise in pitch between two note pitches or chords, without any portamento between the two notes (other common forms of tremolo, e.g. same note repetition, bisbigliando, amplitude tremolo, tremulants, percussion roll G10H 2210/161 or G10H 2210/205)
- M G10H 2210/195
- Modulation effects, i.e. smooth non-discontinuous variations over a time interval, e.g. within a note, melody or musical transition, of any sound parameter, e.g. amplitude, pitch, spectral response, *or* playback speed (stepwise or discontinuous variations over time, e.g. sequence effects G10H 2210/161)
- M G10H 2210/201
- Vibrato, i.e. rapid, repetitive and smooth variation of amplitude, pitch or timbre within a note or chord (discontinuities, note sequences or separate note onsets during the variation G10H 2210/161; tremolo, i.e. stepwise pitch alternation G10H 2210/191)
- M G10H 2210/205
- Amplitude vibrato, i.e. repetitive smooth loudness variation without pitch change or rapid repetition of the same note, bisbigliando, amplitude tremolo, tremulants *or* tremulants (percussion roll G10H 2210/161)
- M G10H 2210/211
- Pitch vibrato, i.e. repetitive and smooth variation in pitch, e.g. as obtainable with a whammy bar or tremolo arm on a guitar (non-repetitive smooth pitch variation, e.g. glissando G10H 2220/221; repeatedly alternating stepwise in pitch between two notes G10H 2210/191)
- M G10H 2210/221
- Glissando, i.e. pitch smoothly sliding from one note to another, e.g. gliss, glide, slide, bend, smear, *or* sweep; ("discrete glissando" on instruments not permitting continuous glissando, like the xylophone or the piano, e.g. arpeggio G10H 2210/185)
- M G10H 2210/225
- Portamento, i.e. smooth continuously variable pitch-bend, without emphasis of each chromatic pitch during the pitch change, which only stops at the end of the pitch shift, as obtained, e.g. by a MIDI pitch wheel or trombone (pitch bend with emphasis of each chromatic pitch during pitch change, e.g. glissando, G10H 2210/221)
- M G10H 2210/265
- Acoustic effect simulation, i.e. volume, spatial, resonance or reverberation effects added to a musical sound, usually by appropriate filtering or delays (physical modeling of room acoustics G10H 2250/531; formant synthesis G10H 2250/481)
- M G10H 2210/295
- Spatial effects, musical uses of multiple audio channels, e.g. stereo (Helmholtz resonance effects G10H 2210/275; reverberation or echo G10H 2210/281)
- M G10H 2210/311
- Distortion, i.e. desired non-linear audio processing to change the tone color colour, e.g. by adding harmonics or deliberately distorting the amplitude of an audio waveform (distortion functions G10H 2250/201, G10H 2250/205)
- M G10H 2210/315
- Dynamic effects for musical purposes, i.e. musical sound effects controlled by the amplitude of the time domain audio envelope, e.g. loudness-dependent tone color colour or musically desired dynamic range compression or expansion (crossfading or envelope processing per se G10H 2250/025)
- M G10H 2210/325
- Musical pitch modification (pitch analysis G10H 2210/066; musical effects G10H 2210/155)
- U G10H 2210/331
- Note pitch correction, i.e. modifying a note pitch or replacing it by the closest one in a given scale

- M G10H 2210/335
- • Chord correction, i.e. modifying one or several notes within a chord, e.g. to correct wrong fingering or to improve harmony (~~natural chords G10H 2210/586~~)
- M G10H 2210/341
- Rhythm pattern selection, synthesis or composition (~~Rhythm analysis G10H 2210/071; accompaniment G10H 2210/005~~)
- M G10H 2210/346
- • Pattern variations, break or fill-in (~~accompaniment G10H 2210/005~~)
- M G10H 2210/375
- Tempo or beat alterations; Music timing control (~~tempo display G10H 2220/081; tempo analysis G10H 2210/076; humanising effect G10H 2210/165; scratch effect G10H 2210/241~~)
- M G10H 2210/381
- • Manual tempo setting or adjustment (~~tempo setting by interpretation of conducting movements G10H 2220/206~~)
- M G10H 2210/385
- • Speed change, i.e. variations from preestablished tempo, tempo change, e.g. faster or slower, accelerando or ritardando, without change in pitch (~~with repetitive changes in pitch, e.g. scratch DJ effects G10H 2210/241~~)
- M G10H 2210/395
- Special musical scales, i.e. other than the 12-interval equally tempered scale; Special input devices therefor (~~keyboards G10H 2220/221~~)
- U G10H 2210/415
- • Equally tempered scale, i.e. note tuning scale in which every pair of adjacent notes has an identical frequency ratio equal to 2 to the power 1/n if the scale has n notes per octave
- M G10H 2210/431
- • Quarter tone scale, i.e. 24 equal intervals per octave, e.g. for Arabic music (~~other Arabic scales, double harmonic scale or major locrian scale G10H 2210/511~~)
- M G10H 2210/441
- • Janko scale, i.e. 41 equal intervals per octave, e.g. as used in the "tonal plexus" keyboard with 211 keys per octave arranged in 12 staggered columns, i.e. in 41 regions of 5 keys each plus 6 duplicate enharmonic keys (~~janko keyboards, i.e. not using the janko scale G10H 2220/251~~)
- M G10H 2210/461
- • Jankovski scale or twelfth tone scale, i.e. octave divided in 72 equal intervals, e.g. moria in Byzantine music theory (~~janko keyboard G10H 2220/251~~)
- M G10H 2210/471
- • Natural or just intonation scales, i.e. based on harmonics consonance such that most adjacent pitches are related by harmonically pure ratios of small integers (~~pitch correction only when playing chords to ensure chord consonance G10H 2210/586~~)
- M G10H 2210/506
- • Danielou 53 interval scale, with note ratios equal to  $(2^p)(3^q)(5^r)$ , with p, q, r positive or negative integers (~~53 interval equally tempered Holder scale G10H 2210/451~~)
- M G10H 2210/511
- • Arabic scales, i.e. either double harmonic scale or major locrian scale; *vosta Vosta* or zaid modes (~~17 or 24 equal interval scales used in arabic music G10H 2210/415 or G10H 2210/431~~)
- M G10H 2210/515
- • Balinese scales, e.g. for gamelan, with instruments played in pairs and tuned slightly apart to produce interference beating ideally at a consistent speed for all pairs of notes in all registers; Balinese pentatonic scales, e.g. Balinese slendro scale, or five-tone modes of the heptatonic pelog scale, itself substantially a 7-note subset of 9-tone equal temperament (~~pentatonic javanese slendro scale G10H 2210/541~~)
- M G10H 2210/531
- • Bluenote scale, i.e. 7-tone scale of 2+1+2+1+3+1+2 semitones (~~hexatonic blues scales G10H 2210/535~~)
- M G10H 2210/541
- • Pentatonic or pentatonic scale, i.e. five pitches or notes per octave, e.g. basic *chinese Chinese* musical scale, black piano keys, *javanese Javanese* gamelan slendro scale, *japanese or Japanese* shakuhachi flute (~~balinese pentatonic scales with deliberate interference beating, e.g. balinese gamelan slendro scale G10H 2210/515~~)

- M G10H 2210/555 · Tonality processing, involving the key in which a musical piece or melody is played (~~tonality analysis, detection or identification G10H 2210/081~~)
- M G10H 2210/571 · Chords; Chord sequences (~~special keyboards for playing chords, e.g. accordion G10H 2230/245; janko keyboard G10H 2220/251~~)
- M G10H 2210/586 · · Natural chords, i.e. adjustment of individual note pitches in order to generate just intonation chords (~~scale natural G10H 2210/471; chord correction G10H 2210/335; musical analysis G10H 2210/031~~)
- U G10H 2220/00 Input/output interfacing specifically adapted for electrophonic musical tools or instruments**
- M G10H 2220/005 · Non-interactive screen display of musical or status data (~~graphical user interfaces specifically adapted for electrophonic musical instruments G10H 2220/091; fingering displays G10H 2220/041~~)
- M G10H 2220/015 · · Musical staff, tablature or score displays, e.g. for score reading during a performance. (~~graphical musical score editing G10H 2220/121; musical score displays resulting from a transcription G10H 2210/086~~)
- M G10H 2220/021 · Indicator, i.e. non-screen output user interfacing, e.g. visual or tactile instrument status or guidance information using lights, LEDs; *or* seven segments displays (~~screen displays G10H 2220/005; graphical user interfaces adapted for electrophonic musical instruments G10H 2220/091; tactile key feedback G10H 2220/311~~)
- M G10H 2220/081 · · Beat indicator, e.g. marks or flashing LEDs to indicate tempo or beat positions (~~analysis tempo G10H 2210/076; tempo or beat alterations G10H 2210/375; rhythm pattern G10H 2210/341~~)
- M G10H 2220/086 · · Beats per minute [~~bpm~~*BPM*] indicator, i.e. displaying a tempo value, e.g. in words or as numerical value in beats per minute (~~analysis tempo G10H 2210/076; tempo or beat alterations G10H 2210/375~~)

**Project: MP12111 (G10H)**

- M G10H 2220/091 · Graphical user interface [GUI] specifically adapted for electrophonic musical instruments, e.g. interactive musical displays, musical instrument icons or menus; Details of user interactions therewith (~~GUI in general G06F 3/048~~)

**Project: MP12188 (G10H)**

- M G10H 2220/096 · · using a touch screen (~~touch screen note input, e.g. using a displayed keyboard G10H 2220/241; personal digital assistant [PDA] G10H 2230/015~~)
- U G10H 2220/101 · · for graphical creation, edition or control of musical data or parameters
- U G10H 2220/106 · · · using icons, e.g. selecting, moving or linking icons, on-screen symbols, screen regions or segments representing musical elements or parameters
- M G10H 2220/111 · · · · for graphical orchestra or soundstage control, e.g. on-screen selection or positioning of instruments in a virtual orchestra, using movable or selectable musical instrument icons (~~soundstage sound field effects G10H 2210/305~~)
- M G10H 2220/116 · · · for graphical editing of sound parameters or waveforms, e.g. by graphical interactive control of timbre, partials or envelope (~~non-graphical waveform editing G10H 2250/615~~)
- M G10H 2220/121 · · · for graphical editing of a musical score, staff or tablature (~~mere score display G10H 2220/015; score transcription G10H 2210/086~~)
- M G10H 2220/135 · Musical aspects of games or videogames; Musical instrument-shaped game input interfaces (~~game background music G10H 2210/026; musical game scoring or performance evaluation G10H 2210/091~~)

**Project: MP12111 (G10H)**

- M G10H 2220/141
  - Games on or about music, i.e. based on musical knowledge, e.g. musical multimedia quizzes (~~teaching of music per se G09B-15/00~~)
- M G10H 2220/155
  - User input interfaces for electrophonic musical instruments (~~graphical user interfaces specifically adapted for electrophonic musical instruments G10H 2220/091; input means in general G06F 3/00~~)

**Project: MP12188 (G10H)**

- M G10H 2220/161
  - with 2D or x/y surface coordinates sensing (~~graphical user interface or touchscreen input G10H 2220/091; microtonal keyboard G10H 2210/401~~)
- M G10H 2220/165
  - for string input, i.e. special characteristics in string composition or use for sensing purposes, e.g. causing the string to become its own sensor (~~transducers, e.g. piezoelectric or magnetic G10H 2220/461; plectrum sensors G10H 2220/191; guitar neck sensors or fret switches G10H 2220/301~~)
- M G10H 2220/175
  - using nonmagnetic string materials, e.g. nylon; Sensors specially adapted therefor (~~piezoelectric transducers G10H 2220/525~~)
- M G10H 2220/185
  - Stick input, e.g. drumsticks with position or contact sensors (~~stick for music conducting applications, e.g. conductor baton movement detection G10H 2220/206~~)

**Project: MP12111 (G10H)**

- M G10H 2220/191
  - Plectrum or pick sensing, e.g. for detection of string striking or plucking (~~Plectra in general, e.g. for stringed musical instruments G10D 3/173~~)
- M G10H 2220/211
  - for microphones, i.e. control of musical parameters either directly from microphone signals or by physically associated peripherals, e.g. karaoke control switches or rhythm sensing accelerometer within the microphone casing (~~microphones per se H04R~~)

**Project: MP12188 (G10H)**

- M G10H 2220/221
  - Keyboards, i.e. configuration of several keys or key-like input devices relative to one another (~~details of individual keys or key-like devices G10H 2220/265; continuous keyboards or keyboards implementing specific musical scales; e.g. quartertone G10H 2210/395; switch matrix keyboards, e.g. on guitar necks G10H 2220/295~~)
- M G10H 2220/236
  - representing an active musical staff or tablature, i.e. with key-like position sensing at the expected note positions on the staff (~~active keyboard representation on a touchscreen G10H 2220/241~~)
- M G10H 2220/251
  - arranged as 2D or 3D arrays; Keyboards ergonomically organised for playing chords or for transposing, e.g. Janko keyboard (~~special keyboards for playing chords, e.g. accordion G10H 2230/245~~)
- M G10H 2220/265
  - Key design details; Special characteristics of individual keys of a keyboard; Key-like musical input devices, e.g. finger sensors, pedals, potentiometers, selectors (~~keyboards G10H 2220/221, special musical scales G10H 2210/395~~)
- M G10H 2220/271
  - Velocity sensing for individual keys, e.g. by placing sensors at different points along the kinematic path for individual key velocity estimation by delay measurement between adjacent sensor signals (~~velocity sensing common to several keys G10H 2220/221~~)
- M G10H 2220/305
  - using a light beam to detect key, pedal or note actuation (~~light beams in general G10H 2220/411~~)

**Project: MP12111 (G10H)**

- M G10H 2220/315     • • for joystick-like proportional control of musical input; Videogame input devices used for musical input or control, e.g. gamepad, joysticks (~~joysticks per se G06F 3/033, G05G 9/047, A63F 13/20~~)
- M G10H 2220/321     • • Garment sensors, i.e. musical control means with trigger surfaces or joint angle sensors, worn as a garment by the player, e.g. bracelet, intelligent clothing (~~vital parameter sensing G10H 2220/371; wearable interfaces in general G06F 3/00~~)

**Project: MP12188 (G10H)**

- M G10H 2220/336     • • • Control shoe or boot, i.e. sensor-equipped lower part of lower limb, e.g. shoe, toe ring, sock, ankle bracelet or leg control attachment (~~garment sensors G10H 2220/321; floor sensing devices, e.g. sensing mats G10H 2220/341~~)
- M G10H 2220/341     • • Floor sensors, e.g. platform or groundsheet with sensors to detect foot position, balance or pressure, steps, stepping rhythm, dancing movements or jumping (~~shoe sensors G10H 2220/336~~)

**Project: MP12111 (G10H)**

- M G10H 2220/346     • • • Hopscotch sensing mats, i.e. including several step sensing zones, e.g. for detection of rhythmic dancing in time to background music according to stepping indications (~~games involving music G10H 2220/135; performance evaluation or scoring G10H 2210/091, videogames in general A63F 13/00~~)

**Project: MP12188 (G10H)**

- M G10H 2220/365     • • Bow control in general, i.e. sensors or transducers on a bow; Input interface or controlling process for emulating a bow, bowing action or generating bowing parameters, e.g. for appropriately controlling a specialised sound synthesiser (~~bowed string instrument sound synthesis per se G10H 2250/445; electrophonic stringed instrument details G10H 2230/075~~)
- M G10H 2220/371     • • Vital parameter control, i.e. musical instrument control based on body signals, e.g. brainwaves, pulsation, temperature; *or* perspiration; *biometric* *Biometric* information (~~signals from body positions or movements G10H 2220/321~~)
- M G10H 2220/391     • • Angle sensing for musical purposes, using data from a gyroscope, gyrometer or other angular velocity or angular movement sensing device (~~angles measured by an accelerometer or gravimeter G10H 2220/395; angles calculated from 3D position sensing G10H 2220/401; player body joint angle sensing G10H 2220/321~~)
- M G10H 2220/395     • • Acceleration sensing or accelerometer use, e.g. 3D movement computation by integration of accelerometer data, angle sensing with respect to the vertical, i.e. gravity sensing. (~~conductor baton movement sensing G10H 2220/206, angle sensing without reference to gravity G10H 2220/391; player body joint angle sensing G10H 2220/321~~)
- M G10H 2220/401     • • 3D sensing, i.e. three-dimensional (x, y, z) position or movement sensing: (~~movement pattern or gesture sensing G10H 2220/201; geolocation sensing G10H 2220/355, 3D sensing with accelerometer G10H 2220/395~~)
- M G10H 2220/405     • • Beam sensing or control, i.e. input interfaces involving substantially immaterial beams, radiation, or fields of any nature, used, e.g. as a switch as in a light barrier, or as a control device, e.g. using the theremin electric field sensing principle (~~theremins G10H 2230/051~~)
- M G10H 2220/411     • • • Light beams (~~key actuation detection using light G10H 2220/305~~)

**Project: MP12111 (G10H)**

- M G10H 2220/441     • • Image sensing, i.e. capturing images or optical patterns for musical purposes or musical control purposes (~~image analysis, inspection, positioning or tracking G06T 7/00, recognising music notations G06V 30/304~~)
- M G10H 2220/445     • • • Bar codes or similar machine readable optical code patterns, e.g. two dimensional mesh pattern, for musical input or control purposes (~~bar codes G06K 7/10~~)
- M G10H 2220/461     • Transducers, i.e. details, positioning or use of assemblies to detect and convert mechanical vibrations or mechanical strains into an electrical signal, e.g. audio, trigger or control signal (~~contact microphones for use on musical instrument H04R 1/46~~)

**Project: MP12188 (G10H)**

- M G10H 2220/565     • • Shielding, electromagnetic or magnetic, e.g. for transducers, i.e. for controlling, orienting or suppressing magnetic fields or for preventing unintentional generation, propagation and reception of electromagnetic energy in electrophonic musical instruments, their vicinity or their interconnections (~~dual coil humbucking transducers G10H 2220/505~~)
- U G10H 2230/00     General physical, ergonomic or hardware implementation of electrophonic musical tools or instruments, e.g. shape or architecture**
- U G10H 2230/005     • Device type or category
- M G10H 2230/015     • • PDA [personal digital assistant] or palmtop computing devices used for musical purposes, e.g. portable music players, tablet computers, e-readers or smart phones in which mobile telephony functions need not be used (~~touch-screen interfaces G10H 2220/096~~)
- M G10H 2230/021     • • Mobile ringtone, i.e. generation, transmission, conversion or downloading of ringing tones or other sounds for mobile telephony; Special musical data formats or protocols ~~herefor~~ *therefor* (~~mobile telephone transmission specifically adapted for electrophonic musical tools or instruments G10H 2240/251~~)
- U G10H 2230/045     • Special instrument [spint], i.e. mimicking the ergonomoy, shape, sound or other characteristic of a specific acoustic musical instrument category
- M G10H 2230/075     • • Spint stringed, i.e. mimicking stringed instrument features, electrophonic aspects of acoustic stringed musical instruments without keyboard; MIDI-like control therefor (~~string instrument sound synthesis G10H 2250/441~~)
- U G10H 2230/095     • • • Spint zither, i.e. mimicking any neckless stringed instrument in which the strings do not extend beyond the sounding board
- M G10H 2230/105     • • • • Spint dulcimer, i.e. mimicking any zither-like instrument with small hand-played mallet hammers (~~Appalachian dulcimer G10H 2230/095~~)
- M G10H 2230/121     • • • Spint mandolin, i.e. mimicking instruments of the lute family with hard sounding board, e.g. with strings arranged and tuned in pairs for tremolo playing (~~lute with skin-like sounding board G10H 2230/151~~)
- M G10H 2230/155     • • Spint wind instrument, i.e. mimicking musical wind instrument features; Electrophonic aspects of acoustic wind instruments; MIDI-like control therefor: (~~wind instrument sound synthesis G10H 2250/461; mouth control, e.g. breath G10H 2220/361; natural aerodynamic noise synthesis, e.g. wind G10H 2250/431~~)
- U G10H 2230/171     • • • Spint brass mouthpiece, i.e. mimicking brass-like instruments equipped with a cupped mouthpiece, e.g. allowing it to be played like a brass instrument, with lip controlled sound generation as in an acoustic brass instrument; Embouchure sensor or MIDI interfaces therefor

- M G10H 2230/181 . . . . Spint trombone, i.e. mimicking trombones or other slide musical instruments permitting a continuous musical scale (~~microtonal scale G10H 2210/401~~)
- M G10H 2230/185 . . . . Spint horn, i.e. mimicking conical bore brass instruments (~~hornpipes G10H 2230/241~~)
- M G10H 2230/191 . . . . Spint French horn, i.e. mimicking an orchestral horn with valves for switching pipe lengths (~~English horn G10H 2230/231~~)
- M G10H 2230/195 . . . Spint flute, i.e. mimicking or emulating a transverse flute or air jet sensor arrangement therefor, e.g. sensing angle, ~~lip position, etc.~~, or lip position to trigger octave change; (~~input breath G10H 2220/361; end-blown flutes G10H 2230/161~~)
- M G10H 2230/201 . . . . Spint piccolo, i.e. half-size transverse flute, e.g. ottavino (~~piccolo clarinet G10H 2230/241~~)
- U G10H 2230/205 . . . Spint reed, i.e. mimicking or emulating reed instruments, sensors or interfaces therefor
- M G10H 2230/211 . . . . Spint harmonica, i.e. mimicking mouth operated wind instruments with multiple tuned free reeds, a.k.a. harmonica, blues harp, mouth organ, pitch pipe, ~~ChengGong~~, or ~~ChengGong~~ (~~free reed instruments not operated by mouth, e.g. accordion G10H 2230/245~~)
- M G10H 2230/251 . . Spint percussion, i.e. mimicking percussion instruments; Electro-phonetic musical instruments with percussion instrument features; Electro-phonetic aspects of acoustic percussion instruments; or MIDI-like control therefor (~~gensound percussion G10H 2250/435~~)
- U G10H 2230/275 . . . Spint drum
- M G10H 2230/281 . . . . Spint drum assembly, i.e. mimicking two or more drums or drumpads assembled on a common structure, e.g. drum kit (~~multi-toned percussion instruments G10H 2230/255~~)

**Project: MP12111 (G10H)**

- M G10H 2230/351 . . . Spint bell, i.e. mimicking bells, e.g. cow-bells (~~bells in general G10K 1/06~~)
- U G10H 2240/00 Data organisation or data communication aspects, specifically adapted for electro-phonetic musical tools or instruments**
- M G10H 2240/005 . . Data structures for use in electro-phonetic musical devices; Data structures including musical parameters derived from musical analysis (~~audio retrieval G06F 16/60~~)
- M G10H 2240/011 . . Files or data streams containing coded musical information, e.g. for transmission (~~audio coding G10L 19/00~~)

**Project: MP12188 (G10H)**

- M G10H 2240/016 . . File editing, i.e. modifying musical data files or streams as such (~~editing by means of a graphical user interface G10H 2220/091~~)

**Project: MP12111 (G10H)**

- M G10H 2240/026 . . File encryption of specific electro-phonetic music instrument file or stream formats, e.g. MIDI, note oriented formats, sound banks, wavetables (~~digital rights management [DRM] G06F 21/00; encryption H04L 9/00~~)
- M G10H 2240/041 . . File watermark, i.e. embedding a hidden code in an electro-phonetic musical instrument file or stream for identification or authentication purposes (~~audio watermarking G10L 19/018~~)

**Project: MP12188 (G10H)**

- M G10H 2240/046 · · File format, i.e. specific or non-standard musical file format used in or adapted for electrophonic musical instruments, e.g. in wavetables (~~details of musical waveform synthesis G10H 2250/541~~)
- M G10H 2240/066 · · · MPEG audio-visual compression file formats, e.g. MPEG-4 for coding of audio-visual objects (~~MP3 G10H 2240/061~~)

**Project: MP12111 (G10H)**

- M G10H 2240/075 · Musical metadata derived from musical analysis or for use in electrophonic musical instruments (~~additional information unrelated to its juxtaposed musical file data G10H 2240/091; audio retrieval G06F 16/60~~)

**Project: MP12188 (G10H)**

- M G10H 2240/081 · · Genre classification, i.e. descriptive metadata for classification or selection of musical pieces according to style (~~analysis genre G10H 2210/036~~)
- M G10H 2240/091 · Info, i.e. juxtaposition of unrelated auxiliary information or commercial messages with or between music files (~~metadata G10H 2240/075~~)

**Project: MP12111 (G10H)**

- M G10H 2240/121 · Musical libraries, i.e. musical databases indexed by musical parameters, wavetables, indexing schemes using musical parameters, musical rule bases or knowledge bases, e.g. for automatic composing methods (~~audio retrieval G06F 16/60~~)

**Project: MP12188 (G10H)**

- M G10H 2240/151 · · Thumbnail, i.e. retrieving, playing or managing a short and musically relevant song preview from a library, e.g. the chorus (~~thumbnail extraction, analysis phrases G10H 2210/061~~)
- M G10H 2240/155 · · Library update, i.e. making or modifying a musical database using musical parameters as indices (~~data structures involving musical parameters G10H 2240/005~~)
- M G10H 2240/161 · Memory and use thereof, in electrophonic musical instruments, e.g. memory map (~~data structures G10H 2240/005; memory cache G10H 2230/031; libraries G10H 2240/121; files G10H 2240/011~~)
- M G10H 2240/171 · Transmission of musical instrument data, control or status information; Transmission, remote access or control of music data for electrophonic musical instruments (~~details about the transmitted data contents G10H 2240/011~~)
- U G10H 2240/201 · · Physical layer or hardware aspects of transmission to or from an electrophonic musical instrument, e.g. voltage levels, bit streams, code words or symbols over a physical link connecting network nodes or instruments
- M G10H 2240/211 · · · Wireless transmission, e.g. of music parameters or control data by radio, infrared or ultrasound (~~beam G10H 2220/405~~)
- U G10H 2240/241 · · · Telephone transmission, i.e. using twisted pair telephone lines or any type of telephone network
- M G10H 2240/251 · · · · Mobile telephone transmission, i.e. transmitting, accessing or controlling music data wirelessly via a wireless or mobile telephone receiver, ~~analog analogue~~ or digital, e.g. DECT, GSM, UMTS (~~smartphone, PDA or palmtop used for musical purposes G10H 2230/015; mobile ringtone G10H 2230/021~~)
- U G10H 2240/281 · · Protocol or standard connector for transmission of analog or digital data to or from an electrophonic musical instrument

- M G10H 2240/295 . . . Packet switched network, e.g. token ring ~~(circuit-switched networks, e.g. traditional analog telephone transmission G10H 2240/241)~~
- M G10H 2240/325 . Synchronizing two or more audio tracks or files according to musical features or musical timings ~~(synchronised lyrics, e.g. for karaoke G10H 2220/011)~~
- M G10H 2250/00 Aspects of algorithms or signal processing methods without intrinsic musical character, yet specifically adapted for or used in electrophonic musical processing ~~(methods with intrinsic musical character G10H 2210/00)~~**
- M G10H 2250/005 . Algorithms for electrophonic musical instruments or musical processing, e.g. for automatic composition or resource allocation ~~(mathematical functions therefor G10H 2250/131; details of musical waveform synthesis G10H 2250/541)~~

**Project: MP12111 (G10H)**

- U G10H 2250/015 . . Markov chains, e.g. hidden Markov models [HMM], for musical processing, e.g. musical analysis or musical composition
- M G10H 2250/021 . . . Dynamic programming, e.g. Viterbi, for finding the most likely or most desirable sequence in music analysis, processing or composition ~~(Viterbi decoding H03M 13/41)~~
- U G10H 2250/025 . Envelope processing of music signals in, e.g. time domain, transform domain or cepstrum domain
- M G10H 2250/035 . . Crossfade, i.e. time domain amplitude envelope control of the transition between musical sounds or melodies, obtained for musical purposes, e.g. for ADSR tone generation, articulations, medley, remix ~~(audio mixers H04H 60/04)~~
- M G10H 2250/041 . Delay lines applied to musical processing ~~(reverberation effects G10H 2210/281; time-delay networks H03H 9/30; chain of active-delay devices H03K 5/133)~~
- M G10H 2250/055 . Filters for musical processing or musical effects; Filter responses, filter architecture, filter coefficients or control parameters therefor ~~(tone controls H03G 5/00; graphic equalizers H03G 9/00; digital filters in general H03H 17/00; current or voltage-controlled filters H03H 11/1291)~~

**Project: MP12188 (G10H)**

- M G10H 2250/071 . . All pole filter, i.e. autoregressive [AR] filter ~~(IIR defined by their temporal impulse response G10H 2250/121)~~
- M G10H 2250/075 . . All zero filter, i.e. moving average [MA] filter or finite ~~inpulse~~ impulse response [FIR] filter ~~(FIR defined by their temporal impulse response G10H 2250/115)~~
- M G10H 2250/091 . . Chebyshev filters ~~(Chebyshev polynomials G10H 2250/191)~~
- M G10H 2250/111 . . Impulse response, i.e. filters defined or ~~specified~~ specified by their temporal impulse response features, e.g. for echo or reverberation applications ~~(reverberation effects G10H 2210/281)~~
- M G10H 2250/115 . . . FIR impulse, e.g. for echoes or room acoustics, the shape of the impulse response is specified in particular according to delay times ~~(FIR filters for musical processing G10H 2250/075)~~
- M G10H 2250/121 . . . IIR impulse ~~(all pole filters for musical processing G10H 2250/071)~~

**Project: MP12111 (G10H)**

- M G10H 2250/131 . Mathematical functions for musical analysis, processing, synthesis or composition ~~(algorithms for musical processing G10H 2250/005; computation of mathematical functions G06F 17/10 and G06F 7/544)~~

**Project: MP12188 (G10H)**

- M G10H 2250/145     • • Convolution, e.g. of a music input signal with a desired impulse response to compute an output ~~(transforms, i.e. mathematical transforms into domains appropriate for musical signal processing, coding or compression G10H 2250/215)~~
- U G10H 2250/165     • • Polynomials, i.e. musical processing based on the use of polynomials, e.g. distortion function for tube amplifier emulation, filter coefficient calculation, polynomial approximations of waveforms, physical modeling equation solutions
- U G10H 2250/175     • • • Jacobi polynomials of several variables, e.g. Heckman-Opdam polynomials, or of one variable only, e.g. hypergeometric polynomials
- U G10H 2250/181     • • • • Gegenbauer or ultraspherical polynomials, e.g. for harmonic analysis
- M G10H 2250/191     • • • • • Chebyshev polynomials, e.g. to provide filter coefficients for sharp rolloff filters ~~(Chebyshev filters G10H 2250/091; Chebyshev windows G10H 2250/271)~~
- M G10H 2250/211     • • Random number generators, pseudorandom generators, classes of functions therefor ~~(musical processes using white noise or nonwhite noise generators G10H 2250/295; noise formant generator G10H 2250/495; magnetic or electromagnetic noise shielding G10H 2220/565)~~
- U G10H 2250/215     • • Transforms, i.e. mathematical transforms into domains appropriate for musical signal processing, coding or compression
- M G10H 2250/221     • • • Cosine transform; DCT [discrete cosine transform], e.g. for use in lossy audio compression such as MP3 ~~(MP3 format G10H 2240/061)~~
- M G10H 2250/225     • • • • MDCT [Modified discrete cosine transform], i.e. based on a DCT of overlapping data ~~(adaptive MDCT compression, e.g. ATRAC [adaptive transform acoustic coding] G10H 2250/575)~~
- U G10H 2250/261     • • Window, i.e. apodization function or tapering function amounting to the selection and appropriate weighting of a group of samples in a digital signal within some chosen time interval, outside of which it is zero valued
- M G10H 2250/271     • • • Chebyshev window ~~(Chebyshev polynomials G10H 2250/191; Chebyshev filters G10H 2250/091)~~

**Project: MP12111 (G10H)**

- M G10H 2250/295     • Noise generation, its use, control or rejection for music processing ~~(white noise or pseudorandom generators G10H 2250/211; use of noise in formant synthesis G10H 2250/495; automatic gain control H03G 3/32; speech or noise detection G10L 25/84)~~

**Project: MP12188 (G10H)**

- M G10H 2250/305     • • Noise or artifact control in electrophonic musical instruments ~~(transducer shielding G10H 2220/565; filter notch G10H 2250/125; waveform aliasing G10H 2250/545)~~

**Project: MP12111 (G10H)**

- M G10H 2250/311     • Neural networks for electrophonic musical instruments or musical processing, e.g. for musical recognition or control, automatic composition or improvisation ~~(musical analysis G10H 2210/031; neural networks G06N 3/02)~~

**Project: MP12188 (G10H)**

- M G10H 2250/315     • Sound category-dependent sound synthesis processes [Gensound] for musical use (~~details of musical waveform synthesis G10H 2250/541; general musical sound synthesis principles G10H 2250/471~~); Sound category-specific synthesis-controlling parameters or control means therefor
- M G10H 2250/365     • • Gensound applause, e.g. handclapping; Cheering; Booming (~~crowd sounds G10H 2250/401~~)
- U G10H 2250/395     • • Gensound nature
- M G10H 2250/401     • • • Crowds, e.g. restaurant, waiting hall, demonstration; *or* subway corridor at rush hour (~~applause, cheering, booing G10H 2250/365~~)
- U G10H 2250/415     • • • Weather
- M G10H 2250/431     • • • • Natural aerodynamic noises, e.g. wind gust sounds, rustling leaves; *or* beating sails (~~gensound wind instruments G10H 2250/461; spint wind instruments G10H 2230/155~~)
- M G10H 2250/435     • • Gensound percussion, i.e. generating or synthesising the sound of a percussion instrument; Control of specific aspects of percussion sounds, e.g. harmonics, under the influence of hitting force, hitting position, settings or striking instruments such as mallet, drumstick, brush; ~~hand *or* hand~~(~~spint percussion G10H 2230/231~~)
- M G10H 2250/441     • • Gensound string, i.e. generating the sound of a string instrument, controlling specific features of said sound (~~spint piano G10H 2230/065; spint stringed instruments G10H 2230/075~~)
- M G10H 2250/445     • • • Bowed string instrument sound generation, controlling specific features of said sound, e.g. use of fret or bow control parameters for violin effects synthesis (~~bow interfaces per se G10H 2220/365; modulation effects G10H 2210/195; spint viola G10H 2230/081; spint cello G10H 2230/085~~)
- M G10H 2250/451     • • • Plucked or struck string instrument sound synthesis, controlling specific features of said sound (~~spint harpsichord G10H 2230/071; spint stringed instruments G10H 2230/075~~)

**Project: MP12111 (G10H)**

- M G10H 2250/455     • • Gensound singing voices, i.e. generation of human voices for musical applications, vocal singing sounds or intelligible words at a desired pitch or with desired vocal effects, e.g. by phoneme synthesis (~~formant synthesis G10H 2250/481; parcor synthesis G10H 2250/505; modulation effects G10H 2210/195; ensemble effects G10H 2210/245; speech synthesis in general G10L-13/00~~)

**Project: MP12188 (G10H)**

- M G10H 2250/461     • • Gensound wind instruments, i.e. generating or synthesising the sound of a wind instrument, controlling specific features of said sound (~~spint wind instruments G10H 2230/155; mouth or breath sensors G10H 2220/361; natural aerodynamic noise synthesis, e.g. wind G10H 2250/431~~)
- M G10H 2250/465     • • • Reed instrument sound synthesis, controlling specific features of said sound (~~spint reed G10H 2230/205~~)
- M G10H 2250/471     • General musical sound synthesis principles, i.e. sound category-independent synthesis methods (~~details of musical waveform synthesis G10H 2250/541; special instrument [spint] G10H 2230/045; sound category-specific synthesis G10H 2250/315~~)

- M G10H 2250/481
  - • Formant synthesis, i.e. simulating the human speech production mechanism by exciting formant resonators, e.g. mimicking vocal tract filtering as in LPC synthesis vocoders, wherein musical instruments may be used as excitation signal to the time-varying filter estimated from a singer's speech (~~gensound singing-voices G10H 2250/455; parcor synthesis G10H 2250/505; effect Helmholtz G10H 2210/275~~)
- M G10H 2250/501
  - • • Formant frequency shifting, sliding formants (~~wah-wah spectral modulation G10H 2210/231~~)
- M G10H 2250/505
  - • Parcor synthesis, i.e. music synthesis using partial autocorrelation techniques, e.g. in which the impulse response of the digital filter in a parcor speech synthesizer is used as a musical signal (~~gensound singing-voices G10H 2250/455; formant synthesis G10H 2250/481~~)

**Project: MP12111 (G10H)**

- M G10H 2250/511
  - • Physical modelling or real-time simulation of the acoustomechanical behaviour of acoustic musical instruments using, e.g. waveguides or looped delay lines (~~models in general G05B 17/00~~)

**Project: MP12188 (G10H)**

- M G10H 2250/531
  - • • Room models, i.e. acoustic physical modelling of a room, e.g. concert hall (~~reverberation or echo G10H 2210/281; soundscape or sound field simulation G10H 2210/301~~)
- M G10H 2250/541
  - Details of musical waveform synthesis, i.e. audio waveshape processing from individual wavetable samples, independently of their origin or of the sound they represent (~~sound category-dependent sound synthesis G10H 2250/315; special instruments [spint] G10H 2230/045; general musical sound synthesis principles G10H 2250/471~~)
- U G10H 2250/551
  - • Waveform approximation, e.g. piecewise approximation of sinusoidal or complex waveforms
- M G10H 2250/561
  - • • Parabolic waveform approximation, e.g. using second order polynomials or parabolic responses (~~parabolic or second order polynomials G10H 2250/201~~)
- M G10H 2250/565
  - • • Polynomial waveform approximation, i.e. using polynomials of third order or higher (~~third order polynomials G10H 2250/205~~)

**Project: MP12111 (G10H)**

- M G10H 2250/571
  - • Waveform compression, adapted for music synthesisers, sound banks or wavetables (~~audio compression G10L 19/00~~)

**Project: MP12188 (G10H)**

- M G10H 2250/575
  - • • Adaptive MDCT-based compression, e.g. using a hybrid subband-MDCT, as in ATRAC (~~non-adaptive MDCT G10H 2250/225~~)
- M G10H 2250/615
  - • Waveform editing, i.e. setting or modifying parameters for waveform synthesis. (~~graphical sound editing G10H 2220/116~~)
- M G10H 2250/631
  - • Waveform resampling, i.e. sample rate conversion or sample depth conversion (~~waveform decimation G10H 2250/611~~)

**Project: MP12188 (G10K)**

- U G10K 2210/00
  - Details of active noise control [ANC] covered by [G10K 11/178](#) but not provided for in any of its subgroups
- U G10K 2210/10
  - Applications

- M G10K 2210/107 · · Combustion, e.g. burner noise control of jet engines ~~(internal combustion engines G10K 2210/121)~~
- M G10K 2210/112 · · Ducts ~~(vehicle exhausts G10K 2210/12822)~~

**Project: MP12111 (G10K)**

- U G10K 2210/30 · Means
- U G10K 2210/321 · · Physical
- U G10K 2210/3229 · · · Transducers
- M G10K 2210/32291 · · · · Plates or thin films, e.g. PVDF ~~(foil-type piezoelectric elements B06B 1/0688)~~

**Project: MP12111 (G11B)**

- U G11B 20/00 Signal processing not specific to the method of recording or reproducing; Circuits therefor**
- U G11B 20/10 · Digital recording or reproducing
- U G11B 20/12 · · Formatting, e.g. arrangement of data block or words on the record carriers {(within interface between computers and data recorders [G06F 3/06](#))}
- U G11B 20/1217 · · · {on discs}
- U G11B 20/1218 · · · · {wherein the formatting concerns a specific area of the disc}
- M G11B 20/1222 · · · · · {ECC block, i.e. a block of error correction encoded symbols which includes all parity data needed for decoding ~~(pure error correction aspects G11B 20/18)~~}
- U G11B 20/1264 · · · {wherein the formatting concerns a specific kind of data}
- U G11B 20/1265 · · · · {Control data, system data or management information, i.e. data used to access or process user data}
- M G11B 20/1287 · · · · · {Synchronisation pattern, e.g. VCO fields ~~(specific bit sequences of sync patterns G11B 20/1403; A/V synchronisation G11B 27/00)~~}
- U G11B 2220/00 Record carriers by type**
- M G11B 2220/60 · Solid state media ~~(details of solid state memory devices G11C)~~
- M G11B 2220/61 · · wherein solid state memory is used for storing A/V content ~~(storing computer data in solid state memories G06F)~~

**Project: MP12111 (G11C)**

- U G11C 2207/00 Indexing scheme relating to arrangements for writing information into, or reading information out from, a digital store**
- M G11C 2207/16 · Solid state audio ~~(deprecated, only for historical reasons, G06F 3/16, G11B)~~
- U G11C 2207/22 · Control and timing of internal memory operations
- M G11C 2207/2209 · · Concurrent read and write ~~(for multi-port memory G11C 7/1075)~~
- M G11C 2207/2281 · · Timing of a read operation ~~(sense amplifier timing G11C 7/06, G11C 7/08)~~
- M G11C 2207/229 · · Timing of a write operation ~~(sense amplifier timing G11C 7/06, G11C 7/08)~~

**Project: Unknown (G21C)**

- U G21C 1/00 Reactor types**
- U G21C 1/02 · Fast fission reactors, i.e. reactors not using a moderator {; Metal cooled reactors; Fast breeders}
- U G21C 1/022 · · {characterised by the design or properties of the core}

- M G21C 1/026
- • • {Reactors not needing **refueling/refuelling**, i.e. reactors of the type breed-and-burn, e.g. travelling or deflagration wave reactors or seed-blanket reactors}

**Project: MP12111 (H01F)**

- U H01F 17/00 **Fixed inductances of the signal type** {(coils in general [H01F 5/00](#); inductors without a potential-jump or surface barrier specially adapted for integrated circuits, details thereof and multistep manufacturing processes therefor [H01L 28/10](#))}
- U H01F 17/0006
- {Printed inductances (printed coils for dynamo-electric machines [H02K 3/26](#); printed circuits [H05K](#))}
- M H01F 2017/0086
- • {on semiconductor substrate ~~(inductors for integrated circuits H01L 28/10)~~}

**Project: MP12374 (H01G)**

- U H01G 9/00 **Electrolytic capacitors, rectifiers, detectors, switching devices, light-sensitive or temperature-sensitive devices; Processes of their manufacture**
- U H01G 9/20
- Light-sensitive devices
- M H01G 9/2045
- • {comprising a semiconductor electrode comprising elements of the fourth group of the Periodic **System (C, Si, Ge, Sn, Pb) Table** with or without impurities, e.g. doping materials}

**Project: MP12111 (H01H)**

- U H01H 2300/00 **Orthogonal indexing scheme relating to electric switches, relays, selectors or emergency protective devices covered by [H01H](#)**
- M H01H 2300/018
- Application transfer; between utility and emergency power supply ~~(circuits in [H02J 9/04](#))~~
- M H01H 2300/052
- Controlling, signalling or testing correct functioning of a switch ~~(see also [H01H 2300/056](#) – [H01H 2300/066](#) and [H01H 11/0062](#))~~

**Project: MP11951 (H01J)**

- U H01J 37/00 **Discharge tubes with provision for introducing objects or material to be exposed to the discharge, e.g. for the purpose of examination or processing thereof** ([H01J 33/00](#), [H01J 40/00](#), [H01J 41/00](#), [H01J 47/00](#), [H01J 49/00](#) take precedence)
- U H01J 37/02
- Details
- M H01J 37/023
- • {Means for mechanically adjusting components not otherwise provided for ~~(mechanically adjusting from the outside of electron or ion-optical components [H01J 37/067](#); positioning the object or material [H01J 37/20](#); vacuum locks; means for obtaining or maintaining the desired pressure within the tube [H01J 37/18](#); other manipulating devices [H01L 21/48](#), [G21F](#))~~}
- M H01J 37/04
- • Arrangements of electrodes and associated parts for generating or controlling the discharge, e.g. electron-optical arrangement; *or* ion-optical arrangement {([H01J 37/32009](#), [H01J 37/32623](#), [H01J 37/3266](#), [H01J 37/32697](#) take precedence; electron or ion-optical systems for localised treatment of **materials objects** [H01J 37/3007](#); ~~discharge control means in gas filled discharge tubes [H01J 37/32009](#)~~}
- M H01J 37/06
- • • Electron sources; Electron guns ~~{(electron sources in general [H01J 1/02](#); [H01J 19/02](#); electron guns in general [H01J 3/02](#))}~~
- U H01J 37/10
- • • Lenses
- U H01J 37/14
- • • • magnetic
- U H01J 37/141
- • • • • Electromagnetic lenses

M	H01J 37/1413	. . . . . {Means for interchanging parts of the lens, <del>e.g. pole pieces</del> ; <i>e. g. pole pieces</i> within the tube ( <del>mechanically adjusting electron (ion)-optical components H01J 37/15</del> )}
M	H01J 37/18	. . Vacuum locks {; Means for obtaining or maintaining the desired pressure within the vessel ( <del>vacuum locks for electron-beam tubes in general H01J 29/865</del> )}
M	H01J 37/20	. . Means for supporting or positioning the <del>objects</del> <i>object</i> or the material; Means for adjusting diaphragms or lenses associated with the support ( <del>introducing the objects H01J 37/18</del> )}
M	H01J 37/21	. . Means for adjusting the focus ( <del>adjusting the focus while observing the image by photographic or optical means H01J 37/22</del> ; means for observing the object or the point of impact on the object in tubes for the localised treatment of materials H01J 37/3005)}
M	H01J 37/22	. . Optical {, <i>image processing</i> } or photographic arrangements associated with the tube ( <del>using a CRT for the display of the image in a scanning electron microscope H01J 37/28</del> ; observing the object or the point of impact on the object in tubes for the localised treatment of materials H01J 37/3007)}
M	H01J 37/222	. . . {Image processing arrangements associated with the tube ( <del>image data processing or generation, in general G06T</del> )}
M	H01J 37/224	. . . {Luminescent screens or photographic plates for imaging ( <del>photosensitive materials for photographic purposes G03C</del> ); Apparatus specially adapted therefor, <del>e.g. e. g.</del> cameras, TV-cameras, photographic equipment; <i>or</i> exposure control; Optical subsystems specially adapted therefor, <del>e.g. e. g.</del> microscopes for observing image on luminescent screen}
U	H01J 37/226	. . . {Optical arrangements for illuminating the object; optical arrangements for collecting light from the object}
M	H01J 37/228	. . . . {whereby illumination <del>and</del> <i>or</i> light collection take place in the same area of the discharge}
U	H01J 37/24	. . Circuit arrangements not adapted to a particular application of the tube and not otherwise provided for
M	H01J 37/241	. . . {High voltage power supply or regulation circuits ( <del>components H01J 37/248</del> )}
M	H01J 37/248	. . Components associated with high voltage supply ( <del>means for measuring the high voltage per se G01R 15/00</del> )}
U	H01J 37/26	. Electron or ion microscopes; Electron or ion diffraction tubes
M	H01J 37/266	. . {Measurement of magnetic <del>or</del> electric fields in the object; Lorentz microscopy ( <i>spot analysing H01J 37/252</i> ; emission microscopes <a href="#">H01J 37/285</a> ; reflecting microscopes <a href="#">H01J 37/29</a> ; <del>spot analysing H01J 37/252</del> )}
U	H01J 37/30	. Electron-beam or ion-beam tubes for localised treatment of objects
U	H01J 37/3002	. . {Details}
M	H01J 37/3007	. . . {Electron or ion-optical systems ( <del>electron or ion-optical details H01J 37/06 - H01J 37/153</del> )}
M	H01J 37/305	. . for casting, melting, evaporating, <i>or</i> etching ( <del>methods for casting or melting of metals with electron beam or gas discharges C22B 9/22</del> )}
U	H01J 37/3053	. . . {for evaporating or etching}
M	H01J 37/3056	. . . . {for microworking, <del>e.g. e. g.</del> etching of gratings; <i>or</i> trimming of electrical components ( <del>trimming of resistors H01C 17/22</del> )}
M	H01J 37/31	. . for cutting or drilling ( <del>methods for cutting or drilling metals with electron beams B23K 15/00</del> )}
M	H01J 37/315	. . for welding ( <del>methods for welding metals with electron beams B23K 15/00</del> )}

- U H01J 37/317 · · for changing properties of the objects or for applying thin layers thereon, e.g. for ion implantation ([H01J 37/36](#) takes precedence)
- M H01J 37/3171 · · · {for ion implantation ~~(plasma immersion ion implantation H01J 37/32412)~~}
- U H01J 37/3174 · · · {Particle-beam lithography, e.g. electron beam lithography}

**Project: MP12111 (H01J)**

- U H01J 2211/00 Plasma display panels with alternate current induction of the discharge, e.g. AC-PDPs**
- U H01J 2211/20 · · · Constructional details
- M H01J 2211/62 · · · Circuit arrangements ~~(circuits or methods for driving PDP's G09G 3/28)~~
- M H01J 2211/66 · · · Cooling arrangements ~~(cooling or supporting means not being part of the tube H05K)~~

**Project: MP12189 (H01J)**

- U H01J 2217/00 Gas-filled discharge tubes**
- M H01J 2217/04 · · · Electrodes ~~(for display panels not making use of alternating current H01J 2217/492; for discharge tubes in general H01J 2201/00)~~
- U H01J 2237/00 Discharge tubes exposing object to beam, e.g. for analysis treatment, etching, imaging**

NOTES

1. For features of general interest which may be found in other types of discharge tubes, an indexing code corresponding to general schemes [H01J 2201/00](#) - [H01J 2203/00](#) is given, e.g. for cathodes, vessels, cooling means or the like
2. Same rules apply for manufacturing procedures ([H01J 2209/00](#)), unless really specific to the tube concerned.
3. The codes in this main group are grouped according to the following principle: details common to gas or plasma discharge of the above mentioned tubes: [H01J 2237/00](#) - [H01J 2237/2487](#)  
Imaging or analysing: [H01J 2237/25](#) - [H01J 2237/2857](#)  
particle beam processing: [H01J 2237/30](#) - [H01J 2237/31798](#)  
plasma processing: [H01J 2237/32](#) - [H01J 2237/339](#)

- M H01J 2237/002 · · · Cooling arrangements ~~(of objects being observed or treated H01J 2237/2001)~~
- U H01J 2237/02 · · · Details
- M H01J 2237/024 · · · Moving components not otherwise provided for ~~(diaphragms H01J 2237/0458; objects H01J 2237/202)~~
- U H01J 2237/04 · · · Means for controlling the discharge
- U H01J 2237/049 · · · Focusing means
- M H01J 2237/0492 · · · · · Lens systems ~~(individual lenses H01J 2237/10)~~
- U H01J 2237/10 · · · Lenses
- U H01J 2237/14 · · · magnetic
- U H01J 2237/1405 · · · · · Constructional details
- M H01J 2237/141 · · · · · Coils ~~(superconducting H01J 2237/142)~~
- U H01J 2237/153 · · · Correcting image defects, e.g. stigmators
- M H01J 2237/1538 · · · Space charge (Boersch) effect compensation ~~(neutralising means H01J 2237/0041)~~
- M H01J 2237/16 · · · Vessels ~~(liner tubes H01J 2237/0268)~~

- U H01J 2237/20      · Positioning, supporting, modifying or maintaining the physical state of objects being observed or treated
- M H01J 2237/204    · · Means for introducing and/or outputting objects ~~(locks H01J 2237/184)~~
- U H01J 2237/206    · · Modifying objects while observing
- M H01J 2237/2065   · · · Temperature variations ~~(maintaining constant desired temperature H01J 2237/2001)~~
- M H01J 2237/21     · Focus adjustment ~~(lenses H01J 2237/10)~~
- M H01J 2237/22     · Treatment of data ~~(mixing signals H01J 2237/24495)~~
- U H01J 2237/245     · Detection characterised by the variable being measured
- U H01J 2237/24507   · · Intensity, dose or other characteristics of particle beams or electromagnetic radiation
- U H01J 2237/24514   · · · Beam diagnostics including control of the parameter or property diagnosed ~~(H01J 2237/30472 takes precedence)~~
- M H01J 2237/24528   · · · · Direction of beam or parts thereof in view of the optical axis, e.g. beam angle, angular distribution, beam divergence, beam convergence or beam landing angle on sample or workpiece ~~(means for deflecting or directing discharge H01J 2237/15)~~
- U H01J 2237/26     · Electron or ion microscopes
- U H01J 2237/2602    · · Details
- U H01J 2237/2605    · · · operating at elevated pressures, e.g. atmosphere
- M H01J 2237/2608   · · · · with environmental specimen chamber ~~(environmental cells H01J 2237/2003)~~
- U H01J 2237/282    · · Determination of microscope properties
- M H01J 2237/2826   · · · Calibration ~~(for object processing apparatus H01J 2237/30433)~~

**Project: MP12111 (H01J)**

- U H01J 2237/30      · Electron or ion beam tubes for processing objects
- U H01J 2237/304     · · Controlling tubes
- U H01J 2237/30405   · · · Details
- M H01J 2237/30416   · · · · Handling of data ~~(for lithography H01J 37/3174)~~

**Project: MP12189 (H01J)**

- M H01J 2237/30433   · · · System calibration ~~(for microscopes H01J 2237/2826)~~
- M H01J 2237/3045    · · · · Deflection calibration ~~(deflecting in general H01J 2237/15; specific to material treating H01J 2237/30483)~~

**Project: MP12111 (H01J)**

- M H01J 2237/30466   · · · Detecting endpoint of process ~~(for plasma apparatus H01J 37/32963, for sputtering apparatus H01J 37/3479)~~

**Project: MP12189 (H01J)**

- U H01J 2237/317      · · Processing objects on a microscale
- M H01J 2237/31732   · · · Depositing thin layers on selected microareas ~~(ion plating H01J 2237/3142)~~
- U H01J 2237/3175     · · · Lithography
- U H01J 2237/31793   · · · · Problems associated with lithography
- M H01J 2237/31798   · · · · · detecting pattern defects ~~(with SEM H01J 2237/2817; correcting H01J 2237/31735, H01J 2237/3174)~~

**Project: MP12111 (H01L)**

- U H01L 2221/00** **Processes or apparatus adapted for the manufacture or treatment of semiconductor or solid state devices or of parts thereof covered by H01L 21/00**
- U H01L 2221/67 · Apparatus for handling semiconductor or electric solid state devices during manufacture or treatment thereof; Apparatus for handling wafers during manufacture or treatment of semiconductor or electric solid state devices or components; Apparatus not specifically provided for elsewhere
- U H01L 2221/683 · · for supporting or gripping
- U H01L 2221/68304 · · · using temporarily an auxiliary support
- M H01L 2221/68372 · · · · used to support a device or wafer when forming electrical connections thereto ~~(when forming bonding pads H01L 24/03; when forming bump connectors H01L 24/11; when forming layer connectors H01L 24/27)~~
- U H01L 2223/00** **Details relating to semiconductor or other solid state devices covered by the group H01L 23/00**
- U H01L 2223/58 · Structural electrical arrangements for semiconductor devices not otherwise provided for
- U H01L 2223/64 · · Impedance arrangements
- U H01L 2223/66 · · · High-frequency adaptations
- M H01L 2223/6644 · · · · Packaging aspects of high-frequency amplifiers ~~(amplifiers per se H03F)~~
- M H01L 2223/6661 · · · · for passive devices ~~(passive components per se H01L 28/00)~~
- M H01L 2223/6672 · · · · · for integrated passive components, e.g. semiconductor device with passive components only ~~(integrated circuits with passive components only per se H01L 27/01)~~
- M H01L 2223/6677 · · · · · for antenna, e.g. antenna included within housing of semiconductor device ~~(antennas per se H01Q)~~
- U H01L 2224/00** **Indexing scheme for arrangements for connecting or disconnecting semiconductor or solid-state bodies and methods related thereto as covered by H01L 24/00**
- U H01L 2224/01 · Means for bonding being attached to, or being formed on, the surface to be connected, e.g. chip-to-package, die-attach, "first-level" interconnects; Manufacturing methods related thereto
- U H01L 2224/02 · · Bonding areas; Manufacturing methods related thereto
- U H01L 2224/03 · · · Manufacturing methods
- U H01L 2224/034 · · · · by blanket deposition of the material of the bonding area
- U H01L 2224/0341 · · · · · in liquid form
- M H01L 2224/03422 · · · · · · by dipping, e.g. in a solder bath ~~(hot-dipping G23C 2/00)~~
- M H01L 2224/03424 · · · · · · Immersion coating, e.g. in a solder bath ~~(immersion processes G23C 2/00)~~
- M H01L 2224/036 · · · · by patterning a pre-deposited material ~~(treatment of parts prior to assembly of the devices H01L 21/48)~~

**Project: MP12189 (H01L)**

- U H01L 2224/038 · · · · Post-treatment of the bonding area
- M H01L 2224/0383 · · · · · Reworking, e.g. shaping ~~(reflowing H01L 2224/03849)~~
- U H01L 2224/04 · · Structure, shape, material or disposition of the bonding areas prior to the connecting process
- U H01L 2224/05 · · · · of an individual bonding area

- U H01L 2224/05001 . . . . . Internal layers
- U H01L 2224/05099 . . . . . Material
- U H01L 2224/05186 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/05187 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/05188)~~
- U H01L 2224/05198 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/05199 . . . . . Material of the matrix
- U H01L 2224/05286 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/05287 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/05288)~~
- U H01L 2224/05298 . . . . . Fillers
- U H01L 2224/05299 . . . . . Base material
- U H01L 2224/05386 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/05387 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/05388)~~
- U H01L 2224/05399 . . . . . Coating material
- U H01L 2224/05486 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/05487 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/05488)~~
- U H01L 2224/0554 . . . . . External layer
- U H01L 2224/05599 . . . . . Material
- U H01L 2224/05686 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/05687 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/05688)~~
- U H01L 2224/05698 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/05699 . . . . . Material of the matrix
- U H01L 2224/05786 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/05787 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/05788)~~
- U H01L 2224/05798 . . . . . Fillers
- U H01L 2224/05799 . . . . . Base material
- U H01L 2224/05886 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/05887 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/05888)~~
- U H01L 2224/05899 . . . . . Coating material
- U H01L 2224/05986 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material

- M H01L 2224/05987 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/05988)~~
- U H01L 2224/07 . . . Structure, shape, material or disposition of the bonding areas after the connecting process
- U H01L 2224/09 . . . . of a plurality of bonding areas
- U H01L 2224/091 . . . . Disposition
- M H01L 2224/0912 . . . . . Layout ~~(layout of bonding areas prior to the connecting process H01L 2224/0612)~~

**Project: MP12111 (H01L)**

- U H01L 2224/10 . . Bump connectors; Manufacturing methods related thereto
- U H01L 2224/11 . . . Manufacturing methods
- U H01L 2224/114 . . . . by blanket deposition of the material of the bump connector
- U H01L 2224/1141 . . . . . in liquid form
- M H01L 2224/11422 . . . . . by dipping, e.g. in a solder bath ~~(hot-dipping G23C 2/00)~~
- M H01L 2224/11424 . . . . . Immersion coating, e.g. in a solder bath ~~(immersion processes G23C 2/00)~~
- M H01L 2224/116 . . . . by patterning a pre-deposited material ~~(treatment of parts prior to assembly of the devices H01L 21/48)~~

**Project: MP12189 (H01L)**

- U H01L 2224/118 . . . . Post-treatment of the bump connector
- M H01L 2224/1183 . . . . . Reworking, e.g. shaping ~~(reflowing H01L 2224/11849)~~
- U H01L 2224/12 . . . Structure, shape, material or disposition of the bump connectors prior to the connecting process
- U H01L 2224/13 . . . . of an individual bump connector
- U H01L 2224/13001 . . . . . Core members of the bump connector
- U H01L 2224/13099 . . . . . Material
- U H01L 2224/13186 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/13187 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/13188)~~
- U H01L 2224/13198 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/13199 . . . . . Material of the matrix
- U H01L 2224/13286 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/13287 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/13288)~~
- U H01L 2224/13298 . . . . . Fillers
- U H01L 2224/13299 . . . . . Base material
- U H01L 2224/13386 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/13387 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/13388)~~
- U H01L 2224/13399 . . . . . Coating material

U	H01L 2224/13486	. . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
M	H01L 2224/13487	. . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides <del>(glass ceramics H01L 2224/13488)</del>
U	H01L 2224/1354	. . . . . Coating
U	H01L 2224/13599	. . . . . Material
U	H01L 2224/13686	. . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
M	H01L 2224/13687	. . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides <del>(glass ceramics H01L 2224/13688)</del>
U	H01L 2224/13698	. . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
U	H01L 2224/13699	. . . . . Material of the matrix
U	H01L 2224/13786	. . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
M	H01L 2224/13787	. . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides <del>(glass ceramics H01L 2224/13788)</del>
U	H01L 2224/13798	. . . . . Fillers
U	H01L 2224/13799	. . . . . Base material
U	H01L 2224/13886	. . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
M	H01L 2224/13887	. . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides <del>(glass ceramics H01L 2224/13888)</del>
U	H01L 2224/13899	. . . . . Coating material
U	H01L 2224/13986	. . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
M	H01L 2224/13987	. . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides <del>(glass ceramics H01L 2224/13988)</del>
U	H01L 2224/15	. . . Structure, shape, material or disposition of the bump connectors after the connecting process
U	H01L 2224/17	. . . . of a plurality of bump connectors
U	H01L 2224/171	. . . . Disposition
M	H01L 2224/1712	. . . . Layout <del>(layout of bump connectors prior to the connecting process H01L 2224/1412)</del>

**Project: MP12111 (H01L)**

U	H01L 2224/26	. . Layer connectors, e.g. plate connectors, solder or adhesive layers; Manufacturing methods related thereto
U	H01L 2224/27	. . . Manufacturing methods
U	H01L 2224/274	. . . . by blanket deposition of the material of the layer connector
U	H01L 2224/2741	. . . . . in liquid form
M	H01L 2224/27422	. . . . . by dipping, e.g. in a solder bath <del>(hot dipping G23C 2/00)</del>
M	H01L 2224/27424	. . . . . Immersion coating, e.g. in a solder bath <del>(immersion processes G23C 2/00)</del>
M	H01L 2224/276	. . . . by patterning a pre-deposited material <del>(treatment of parts prior to assembly of the devices H01L 21/48)</del>

**Project: MP12189 (H01L)**

- U H01L 2224/278 . . . . Post-treatment of the layer connector
- M H01L 2224/2783 . . . . Reworking, e.g. shaping ~~(reflowing H01L 2224/27849)~~
- U H01L 2224/28 . . . Structure, shape, material or disposition of the layer connectors prior to the connecting process
- U H01L 2224/29 . . . . of an individual layer connector
- U H01L 2224/29001 . . . . Core members of the layer connector
- U H01L 2224/2902 . . . . Disposition
- M H01L 2224/29021 . . . . the layer connector being disposed in a recess of the surface ~~(embedded layer connector H01L 2224/29022)~~
- U H01L 2224/29099 . . . . Material
- U H01L 2224/29186 . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/29187 . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/29188)~~
- U H01L 2224/29198 . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/29199 . . . . Material of the matrix
- U H01L 2224/29286 . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/29287 . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/29288)~~
- U H01L 2224/29298 . . . . Fillers
- U H01L 2224/29299 . . . . Base material
- U H01L 2224/29386 . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/29387 . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/29388)~~
- U H01L 2224/29399 . . . . Coating material
- U H01L 2224/29486 . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/29487 . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/29488)~~
- U H01L 2224/2954 . . . . Coating
- U H01L 2224/29599 . . . . Material
- U H01L 2224/29686 . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/29687 . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/29688)~~
- U H01L 2224/29698 . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/29699 . . . . Material of the matrix
- U H01L 2224/29786 . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/29787 . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/29788)~~
- U H01L 2224/29798 . . . . Fillers

- U H01L 2224/29799 . . . . . Base material
- U H01L 2224/29886 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/29887 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/29888)~~
- U H01L 2224/29899 . . . . . Coating material
- U H01L 2224/29986 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/29987 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/29988)~~
- U H01L 2224/31 . . . Structure, shape, material or disposition of the layer connectors after the connecting process
- U H01L 2224/33 . . . . of a plurality of layer connectors
- U H01L 2224/331 . . . . Disposition
- M H01L 2224/3312 . . . . Layout ~~(layout of layer connectors prior to the connecting process H01L 2224/3012)~~
- U H01L 2224/34 . . Strap connectors, e.g. copper straps for grounding power devices; Manufacturing methods related thereto
- U H01L 2224/36 . . . Structure, shape, material or disposition of the strap connectors prior to the connecting process
- U H01L 2224/37 . . . . of an individual strap connector
- U H01L 2224/37001 . . . . Core members of the connector
- U H01L 2224/37099 . . . . Material
- U H01L 2224/37186 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/37187 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/37188)~~
- U H01L 2224/37198 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/37199 . . . . . Material of the matrix
- U H01L 2224/37286 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/37287 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/37288)~~
- U H01L 2224/37298 . . . . . Fillers
- U H01L 2224/37299 . . . . . Base material
- U H01L 2224/37386 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/37387 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/37388)~~
- U H01L 2224/37399 . . . . . Coating material
- U H01L 2224/37486 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/37487 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/37488)~~
- U H01L 2224/3754 . . . . Coating
- U H01L 2224/37599 . . . . Material

- U H01L 2224/37686 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/37687 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/37688)~~
- U H01L 2224/37698 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/37699 . . . . . Material of the matrix
- U H01L 2224/37786 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/37787 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/37788)~~
- U H01L 2224/37798 . . . . . Fillers
- U H01L 2224/37799 . . . . . Base material
- U H01L 2224/37886 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/37887 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/37888)~~
- U H01L 2224/37899 . . . . . Coating material
- U H01L 2224/37986 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/37987 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/37988)~~
- U H01L 2224/42 . . . . . Wire connectors; Manufacturing methods related thereto
- U H01L 2224/44 . . . . . Structure, shape, material or disposition of the wire connectors prior to the connecting process
- U H01L 2224/45 . . . . . of an individual wire connector
- U H01L 2224/45001 . . . . . Core members of the connector
- U H01L 2224/45099 . . . . . Material
- U H01L 2224/45186 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/45187 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/45188)~~
- U H01L 2224/45198 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/45199 . . . . . Material of the matrix
- U H01L 2224/45286 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/45287 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/45288)~~
- U H01L 2224/45298 . . . . . Fillers
- U H01L 2224/45299 . . . . . Base material
- U H01L 2224/45386 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/45387 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/45388)~~
- U H01L 2224/45399 . . . . . Coating material

- U H01L 2224/45486 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/45487 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/45488)~~
- U H01L 2224/4554 . . . . . Coating
- U H01L 2224/45599 . . . . . Material
- U H01L 2224/45686 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/45687 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/45688)~~
- U H01L 2224/45698 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/45699 . . . . . Material of the matrix
- U H01L 2224/45786 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/45787 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/45788)~~
- U H01L 2224/45798 . . . . . Fillers
- U H01L 2224/45799 . . . . . Base material
- U H01L 2224/45886 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/45887 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/45888)~~
- U H01L 2224/45899 . . . . . Coating material
- U H01L 2224/45986 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/45987 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/45988)~~
- U H01L 2224/47 . . . Structure, shape, material or disposition of the wire connectors after the connecting process
- U H01L 2224/48 . . . . . of an individual wire connector
- U H01L 2224/485 . . . . . Material
- U H01L 2224/48505 . . . . . at the bonding interface
- U H01L 2224/48599 . . . . . Principal constituent of the connecting portion of the wire connector being Gold (Au)
- U H01L 2224/48686 . . . . . with a principal constituent of the bonding area being a non metallic, non metalloid inorganic material
- M H01L 2224/48687 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/48688)~~
- U H01L 2224/48699 . . . . . Principal constituent of the connecting portion of the wire connector being Aluminium (Al)
- U H01L 2224/48786 . . . . . with a principal constituent of the bonding area being a non metallic, non metalloid inorganic material
- M H01L 2224/48787 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/48788)~~
- U H01L 2224/48799 . . . . . Principal constituent of the connecting portion of the wire connector being Copper (Cu)

- U H01L 2224/48886 . . . . . with a principal constituent of the bonding area being a non metallic, non metalloid inorganic material
- M H01L 2224/48887 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/48888)~~

**Project: MP12111 (H01L)**

- U H01L 2224/80 . Methods for connecting semiconductor or other solid state bodies using means for bonding being attached to, or being formed on, the surface to be connected
- U H01L 2224/80001 . . by connecting a bonding area directly to another bonding area, i.e. connectorless bonding, e.g. bumpless bonding
- M H01L 2224/80052 . . . Detaching bonding areas, e.g. after testing ~~(unsoldering in general B23K 1/018)~~
- U H01L 2224/802 . . . Applying energy for connecting
- M H01L 2224/80237 . . . . using an electron beam ~~(electron beam welding in general B23K 15/00)~~

**Project: MP12189 (H01L)**

- U H01L 2224/8036 . . . Bonding interfaces of the semiconductor or solid state body
- M H01L 2224/80379 . . . . Material ~~(material of the bonding area prior to the connecting process H01L 2224/05099 and H01L 2224/05599)~~
- U H01L 2224/8038 . . . Bonding interfaces outside the semiconductor or solid-state body
- U H01L 2224/80399 . . . . Material
- U H01L 2224/80486 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/80487 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/80488)~~
- U H01L 2224/80498 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/80499 . . . . . Material of the matrix
- U H01L 2224/80586 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/80587 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/80588)~~
- U H01L 2224/80598 . . . . . Fillers
- U H01L 2224/80599 . . . . . Base material
- U H01L 2224/80686 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/80687 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/80688)~~
- U H01L 2224/80699 . . . . . Coating material
- U H01L 2224/80786 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/80787 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/80788)~~
- U H01L 2224/809 . . . with the bonding area not providing any mechanical bonding
- M H01L 2224/80901 . . . . Pressing a bonding area against another bonding area by means of a further bonding area or connector ~~(detachable pressure contact H01L 2224/72)~~

**Project: MP12111 (H01L)**

- U H01L 2224/81 . . . using a bump connector
- M H01L 2224/81052 . . . Detaching bump connectors, e.g. after testing ~~(unsoldering in general B23K 1/018)~~
- U H01L 2224/812 . . . Applying energy for connecting
- M H01L 2224/81237 . . . using an electron beam ~~(electron beam welding in general B23K 15/00)~~

**Project: MP12189 (H01L)**

- U H01L 2224/8136 . . . Bonding interfaces of the semiconductor or solid state body
- M H01L 2224/81379 . . . . Material ~~(material of the bump connector prior to the connecting process H01L 2224/13099 and H01L 2224/13599, and subgroups)~~
- U H01L 2224/8138 . . . Bonding interfaces outside the semiconductor or solid-state body
- U H01L 2224/81399 . . . . Material
- U H01L 2224/81486 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/81487 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/81488)~~
- U H01L 2224/81498 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/81499 . . . . . Material of the matrix
- U H01L 2224/81586 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/81587 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/81588)~~
- U H01L 2224/81598 . . . . . Fillers
- U H01L 2224/81599 . . . . . Base material
- U H01L 2224/81686 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/81687 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/81688)~~
- U H01L 2224/81699 . . . . . Coating material
- U H01L 2224/81786 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/81787 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/81788)~~
- U H01L 2224/819 . . . with the bump connector not providing any mechanical bonding
- M H01L 2224/81901 . . . . Pressing the bump connector against the bonding areas by means of another connector ~~(detachable pressure contact H01L 2224/72)~~

**Project: MP12111 (H01L)**

- U H01L 2224/82 . . by forming build-up interconnects at chip-level, e.g. for high density interconnects [HDI]
- U H01L 2224/822 . . . Applying energy for connecting
- M H01L 2224/82237 . . . . using electron beam, ~~(electron beam in general B23K 15/00)~~
- U H01L 2224/83 . . using a layer connector
- M H01L 2224/83052 . . . Detaching layer connectors, e.g. after testing ~~(unsoldering in general B23K 1/018)~~

- U H01L 2224/832 . . . Applying energy for connecting
- M H01L 2224/83237 . . . . using an electron beam ~~(electron beam welding in general B23K 15/00)~~

**Project: MP12189 (H01L)**

- U H01L 2224/8336 . . . Bonding interfaces of the semiconductor or solid state body
- M H01L 2224/83379 . . . . Material ~~(material of the layer connector prior to the connecting process H01L 2224/29099 and H01L 2224/29599, and subgroups)~~
- U H01L 2224/8338 . . . Bonding interfaces outside the semiconductor or solid-state body
- U H01L 2224/83399 . . . . Material
- U H01L 2224/83486 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/83487 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/83488)~~
- U H01L 2224/83498 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/83499 . . . . . Material of the matrix
- U H01L 2224/83586 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/83587 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/83588)~~
- U H01L 2224/83598 . . . . . Fillers
- U H01L 2224/83599 . . . . . Base material
- U H01L 2224/83686 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/83687 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/83688)~~
- U H01L 2224/83699 . . . . . Coating material
- U H01L 2224/83786 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/83787 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/83788)~~

**Project: MP12111 (H01L)**

- U H01L 2224/84 . . . using a strap connector
- U H01L 2224/842 . . . Applying energy for connecting
- M H01L 2224/84237 . . . . using an electron beam ~~(electron beam welding in general B23K 15/00)~~

**Project: MP12189 (H01L)**

- U H01L 2224/8438 . . . Bonding interfaces outside the semiconductor or solid-state body
- U H01L 2224/84399 . . . . Material
- U H01L 2224/84486 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/84487 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/84488)~~
- U H01L 2224/84498 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/84499 . . . . . Material of the matrix

- U H01L 2224/84586 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/84587 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/84588)~~
- U H01L 2224/84598 . . . . . Fillers
- U H01L 2224/84599 . . . . . Base material
- U H01L 2224/84686 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/84687 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/84688)~~
- U H01L 2224/84699 . . . . . Coating material
- U H01L 2224/84786 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/84787 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/84788)~~

**Project: MP12111 (H01L)**

- U H01L 2224/85 . . . using a wire connector
- U H01L 2224/852 . . . Applying energy for connecting
- M H01L 2224/85237 . . . . using electron beam ~~(using electron beam in general B23K 15/00)~~

**Project: MP12189 (H01L)**

- U H01L 2224/8538 . . . Bonding interfaces outside the semiconductor or solid-state body
- U H01L 2224/85399 . . . . Material
- U H01L 2224/85486 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/85487 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/85488)~~
- U H01L 2224/85498 . . . . . with a principal constituent of the material being a combination of two or more materials in the form of a matrix with a filler, i.e. being a hybrid material, e.g. segmented structures, foams
- U H01L 2224/85499 . . . . . Material of the matrix
- U H01L 2224/85586 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/85587 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/85588)~~
- U H01L 2224/85598 . . . . . Fillers
- U H01L 2224/85599 . . . . . Base material
- U H01L 2224/85686 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/85687 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/85688)~~
- U H01L 2224/85699 . . . . . Coating material
- U H01L 2224/85786 . . . . . with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2224/85787 . . . . . Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/85788)~~

**Project: MP12111 (H01L)**

- U H01L 2224/86 · · using tape automated bonding [TAB]
- U H01L 2224/862 · · · Applying energy for connecting
- U H01L 2224/8621 · · · · with energy being in the form of electromagnetic radiation
- M H01L 2224/86237 · · · · · using electron beam ~~(electron beam in general B23K 15/00)~~
- U H01L 2225/00** **Details relating to assemblies covered by the group [H01L 25/00](#) but not provided for in its subgroups**
- U H01L 2225/03 · All the devices being of a type provided for in the same subgroup of groups [H01L 27/00](#) - [H01L 33/648](#) and [H10K 99/00](#)
- U H01L 2225/04 · · the devices not having separate containers
- U H01L 2225/065 · · · the devices being of a type provided for in group [H01L 27/00](#)
- U H01L 2225/06503 · · · · Stacked arrangements of devices
- M H01L 2225/06541 · · · · · Conductive via connections through the device, e.g. vertical interconnects, through silicon via [TSV] ~~(manufacturing via connections per se H01L 21/76898)~~
- M H01L 2225/06593 · · · · · Mounting aids permanently on device; arrangements for alignment ~~(use of temporary supports H01L 21/6835)~~
- M H01L 2225/06596 · · · · · Structural arrangements for testing ~~(testing or measuring during manufacture or treatment H01L 22/00; testing electrical properties or locating electrical faults G01R 31/00)~~
- U H01L 2225/10 · · the devices having separate containers
- U H01L 2225/1005 · · · the devices being of a type provided for in group [H01L 27/00](#)
- U H01L 2225/1011 · · · · the containers being in a stacked arrangement
- U H01L 2225/1047 · · · · · Details of electrical connections between containers
- M H01L 2225/107 · · · · · Indirect electrical connections, e.g. via an interposer, a flexible substrate, using TAB ~~(printed circuits H05K 1/00)~~
- U H01L 2924/00** **Indexing scheme for arrangements or methods for connecting or disconnecting semiconductor or solid-state bodies as covered by [H01L 24/00](#)**
- M H01L 2924/06 · Polymers ~~(polymers per se C08; polymer adhesives G09J)~~

**Project: MP12189 (H01L)**

- U H01L 2924/15 · Details of package parts other than the semiconductor or other solid state devices to be connected
- U H01L 2924/161 · · Cap
- U H01L 2924/1615 · · · Shape
- U H01L 2924/16152 · · · · Cap comprising a cavity for hosting the device, e.g. U-shaped cap
- U H01L 2924/1617 · · · · · Cavity coating
- U H01L 2924/16171 · · · · · · Material
- U H01L 2924/16173 · · · · · · · with a principal constituent of the material being a non metallic, non metalloid inorganic material
- M H01L 2924/16174 · · · · · · · Ceramics, e.g. crystalline carbides, nitrides or oxides ~~(glass ceramics H01L 2224/16175)~~

**Project: MP12111 (H01M)**

- U H01M 2250/00** **Fuel cells for particular applications; Specific features of fuel cell system**
- U H01M 2250/40 · Combination of fuel cells with other energy production systems

- M H01M 2250/402 · · Combination of fuel cell with other electric generators (~~combination of fuel cells with other electrochemical generator H01M 16/003~~)

**Project: MP12374 (H01S)**

- U H01S 5/00 Semiconductor lasers (superluminescent diodes H01L 33/00)**  
NOTE  
Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the Periodic Table of chemical elements the CPC refers. In this group, the system used is the 8 group system indicated by Roman numerals in the Periodic Table thereunder.
- U H01S 5/02 · Structural details or components not essential to laser action
- U H01S 5/0206 · · {Substrates, e.g. growth, shape, material, removal or bonding; (specific crystal orientation H01S 5/3202)}
- M H01S 5/0218 · · · {Substrates comprising semiconducting materials from ~~different~~ other groups of the ~~periodic system than the~~ Periodic Table than the materials of the active layer}
- U H01S 5/30 · Structure or shape of the active region; Materials used for the active region
- U H01S 5/32 · · comprising PN junctions, e.g. hetero- or double- heterostructures (H01S 5/34, H01S 5/36 take precedence)
- U H01S 5/3211 · · · {characterised by special cladding layers, e.g. details on band-discontinuities}
- M H01S 5/3214 · · · · {comprising materials from other groups of the ~~periodic system~~ Periodic Table than the materials of the active layer, e.g. ZnSe claddings and GaAs active layer}

**Project: MP12111 (H02J)**

- U H02J 2207/00 Indexing scheme relating to details of circuit arrangements for charging or depolarising batteries or for supplying loads from batteries**
- M H02J 2207/50 · Charging of capacitors, supercapacitors, ultra-capacitors or double layer capacitors (~~using capacitors as storage or buffering device in cooperation with batteries H02J 7/345~~)
- U H02J 2300/00 Systems for supplying or distributing electric power characterised by decentralized, dispersed, or local generation**
- U H02J 2300/20 · The dispersed energy generation being of renewable origin
- U H02J 2300/22 · · The renewable source being solar energy
- U H02J 2300/24 · · · of photovoltaic origin
- M H02J 2300/26 · · · · involving maximum power point tracking control for photovoltaic sources (~~maximum power point systems in particular G05F 1/67~~)
- M H02J 2300/28 · · The renewable source being wind energy (~~wind motors F03D~~)

**Project: MP12111 (H02P)**

- U H02P 2201/00 Indexing scheme relating to controlling arrangements characterised by the converter used**
- M H02P 2201/03 · AC-DC converter stage controlled to provide a defined DC link voltage (~~general aspects of plural converters in cascade H02M~~)
- M H02P 2201/07 · DC-DC step-up or step-down converter inserted between the power supply and the inverter supplying the motor, e.g. to control voltage source fluctuations, to vary the motor speed (~~general aspects of plural converters in cascade H02M~~)

- M H02P 2201/09 · Boost converter, i.e. DC-DC step up converter increasing the voltage between the supply and the inverter driving the motor ~~(general aspects of plural converters in cascade H02M)~~
- M H02P 2201/11 · Buck converter, i.e. DC-DC step down converter decreasing the voltage between the supply and the inverter driving the motor ~~(general aspects of plural converters in cascade H02M)~~
- M H02P 2201/15 · Power factor ~~Correction~~ **correction** [PFC] circuit generating the DC link voltage for motor driving inverter ~~(motor power factor control H02P-23/26)~~
- U H02P 2203/00 Indexing scheme relating to controlling arrangements characterised by the means for detecting the position of the rotor**
- M H02P 2203/11 · Determination or estimation of the rotor position or other motor parameters based on the analysis of high-frequency signals ~~(position detection of motors with electronic commutators in dependence of the position H02P-6/185)~~

**Project: MP12111 (H03H)**

- U H03H 1/00 Constructional details of impedance networks whose electrical mode of operation is not specified or applicable to more than one type of network (constructional details of electromechanical transducers [H03H 9/00](#))**
- U H03H 2001/0021 · {Constructional details}
- M H03H 2001/0085 · · {Multilayer, e.g. LTCC, HTCC, green sheets ~~(inside PCB filters H05K)~~}

**Project: MP12111 (H03K)**

- U H03K 17/00 Electronic switching or gating, i.e. not by contact-making and -breaking (gated amplifiers [H03F 3/72](#); switching arrangements for exchange systems using static devices [H04Q 3/52](#))**
- U H03K 17/94 · characterised by the way in which the control signals are generated
- U H03K 17/945 · · Proximity switches ([H03K 17/96](#) takes precedence)
- M H03K 2017/9455 · · · {constructional details ~~(of proximity switches using a magnetic detector H03K-17/9505)~~}

**Project: MP12189 (H03K)**

- U H03K 2217/00 Indexing scheme related to electronic switching or gating, i.e. not by contact-making or -breaking covered by [H03K 17/00](#)**
- U H03K 2217/94 · characterised by the way in which the control signal is generated
- U H03K 2217/96 · · Touch switches
- M H03K 2217/96015 · · · Constructional details for touch switches ~~(for capacitive touch switches see H03K-2217/9607)~~

**Project: MP12111 (H04B)**

- U H04B 2210/00 Indexing scheme relating to optical transmission systems**
- M H04B 2210/07 · Monitoring an optical transmission system using a supervisory signal ~~(OAM for WDM transmission H04J-14/0272)~~

**Project: MP12111 (H04K)**

- U H04K 2203/00 Jamming of communication; Countermeasures**
- U H04K 2203/10 · Jamming or countermeasure used for a particular application

- M H04K 2203/20
- for contactless carriers, e.g. RFID carriers ~~(record carriers with integrated circuit chips including means for preventing undesired reading or writing from or to record carriers by hindering electromagnetic reading or writing G06K 19/07318; arrangements for sensing record carriers including arrangements for protecting the interrogation against piracy attacks G06K 7/10257)~~

## Project: MP12111 (H04L)

- U H04L 2209/00** Additional information or applications relating to cryptographic mechanisms or cryptographic arrangements for secret or secure communication [H04L 9/00](#)
- M H04L 2209/76
- Proxy, i.e. using intermediary entity to perform cryptographic operations ~~(network architectures or network communication protocols using hop-by-hop encryption H04L 63/0464)~~
- M H04L 2209/80
- Wireless ~~(network architectures or network communication protocols for wireless network security H04W 12/00)~~
- U H04L 2463/00** Additional details relating to network architectures or network communication protocols for network security covered by [H04L 63/00](#)
- M H04L 2463/061
- applying further key derivation, e.g. deriving traffic keys from a pair-wise master key ~~(cryptographic mechanisms or cryptographic arrangements for generation of secret information including derivation or calculation of cryptographic keys or passwords H04L 9/0861)~~
- M H04L 2463/062
- applying encryption of the keys ~~(cryptographic mechanisms or cryptographic arrangements for key distribution using key encryption key H04L 9/0822)~~
- M H04L 2463/081
- applying self-generating credentials, e.g. instead of receiving credentials from an authority or from another peer, the credentials are generated at the entity itself ~~(cryptographic mechanisms or cryptographic arrangements for generation of secret information including derivation or calculation of cryptographic keys or passwords H04L 9/0861)~~
- M H04L 2463/082
- applying multi-factor authentication ~~(cryptographic mechanisms or cryptographic arrangements including means for verifying the identity or authority of a user of the system or for message authentication H04L 9/32)~~
- M H04L 2463/101
- applying security measures for digital rights management ~~(data processing systems or methods, specially adapted for commerce, e.g. marketing, shopping, billing, auctions or e-commerce G06Q 30/00)~~
- M H04L 2463/102
- applying security measure for e-commerce ~~(data processing systems or methods, specially adapted for e-commerce G06Q 30/00)~~
- M H04L 2463/103
- applying security measure for protecting ~~copy right~~ **copyright** ~~(protecting software against unauthorised usage in a vending or licensing environment; e.g. protection the software providers copyright G06F 21/10; data processing systems or methods, specially adapted for payment schemes, architectures or protocols G06Q 20/00; secrecy systems or subscription systems H04N 7/16)~~
- M H04L 2463/121
- Timestamp ~~(cryptographic mechanisms or cryptographic arrangements involving time stamps H04L 9/3297)~~

## Project: RP0675-F (H04M)

- U H04M 1/00** Substation equipment, e.g. for use by subscribers (subscriber services or facilities provided at exchanges [H04M 3/00](#); prepayment telephone coin boxes [H04M 17/00](#); current supply arrangements [H04M 19/08](#))
- U H04M 1/02
- Constructional features of telephone sets
- U H04M 1/0202
- {Portable telephone sets, e.g. cordless phones, mobile phones or bar type handsets (constructional features of telephone transmitters or receivers, e.g. of speakers or microphones [H04M 1/03](#))}

- U H04M 1/026      · · · {Details of the structure or mounting of specific components}
- U H04M 1/0266     · · · · {for a display module assembly}
- M H04M 1/0268     · · · · · {including a flexible display panel}
- WARNING  
Group H04M 1/0268 is impacted by reclassification into group H04M 1/0269.-  
Groups H04M 1/0268 and H04M 1/0269 should be considered in order to perform a complete search.
- M H04M 1/0269     · · · · · {mounted in a fixed curved configuration, e.g. display curved around the edges of the telephone housing}
- WARNING  
Group H04M 1/0269 is incomplete pending reclassification of documents from group H04M 1/0268.-  
Groups H04M 1/0268 and H04M 1/0269 should be considered in order to perform a complete search.
- U H04M 1/72        · Mobile telephones; Cordless telephones, i.e. devices for establishing wireless links to base stations without route selection
- U H04M 1/724       · · User interfaces specially adapted for cordless or mobile telephones
- U H04M 1/72403    · · · with means for local support of applications that increase the functionality
- M H04M 1/72409    · · · · by interfacing with external accessories (hands-free [H04M 1/60](#))
- WARNING  
Group H04M 1/72409 is impacted by reclassification into groups H04M 1/724092, H04M 1/724094, H04M 1/724095, H04M 1/724097 and H04M 1/724098.-  
All groups listed in this Warning should be considered in order to perform a complete search.
- M H04M 1/724092 · · · · · {Interfacing with an external cover providing additional functionalities}
- WARNING  
Group H04M 1/724092 is incomplete pending reclassification of documents from group H04M 1/72409.-  
Groups H04M 1/72409 and H04M 1/724092 should be considered in order to perform a complete search.
- M H04M 1/724094 · · · · · {Interfacing with a device worn on the user's body to provide access to telephonic functionalities, e.g. accepting a call, reading or composing a message}
- WARNING  
Groups H04M 1/724094, H04M 1/724095 and H04M 1/724097 are incomplete pending reclassification of documents from group H04M 1/72409.-  
All groups listed in this Warning should be considered in order to perform a complete search.
- M H04M 1/724098 · · · · · {Interfacing with an on-board device of a vehicle (for hands-free speaking in vehicles [H04M 1/6075](#))}
- WARNING  
Group H04M 1/724098 is incomplete pending reclassification of documents from group H04M 1/72409.-  
Groups H04M 1/72409 and H04M 1/724098 should be considered in order to perform a complete search.

- U H04M 1/72448 . . . with means for adapting the functionality of the device according to specific conditions
- M H04M 1/72463 . . . . to restrict the functionality of the device
- WARNING  
Group H04M 1/72463 is impacted by reclassification into groups H04M 1/724631 and H04M 1/724634.  
Groups H04M 1/72463, H04M 1/724631 and H04M 1/724634 should be considered in order to perform a complete search.
- M H04M 1/724631 . . . . {by limiting the access to the user interface, e.g. locking a touch-screen or a keypad}
- WARNING  
Groups H04M 1/724631 and H04M 1/724634 are incomplete pending reclassification of documents from group H04M 1/72463.  
Groups H04M 1/72463, H04M 1/724631 and H04M 1/724634 should be considered in order to perform a complete search.

**Project: MP12111 (H04M)**

- U H04M 2201/00 Electronic components, circuits, software, systems or apparatus used in telephone systems**
- M H04M 2201/39 . using speech synthesis (~~speech synthesis per se G10L 13/00~~)
- M H04M 2201/40 . using speech recognition (~~speech recognition per se G10L 15/00~~)
- M H04M 2201/405 . . involving speaker-dependent recognition (~~adaptation to speaker for speech recognition G10L 15/07~~)
- M H04M 2201/41 . using speaker recognition (~~speaker recognition per se G10L 17/00~~)
- U H04M 2203/00 Aspects of automatic or semi-automatic exchanges**
- U H04M 2203/05 . related to OAM&P
- M H04M 2203/057 . . distortion monitoring (~~QoS monitoring H04M 3/2227; quality of speech transmission monitoring H04M 3/2236~~)
- U H04M 2203/10 . related to the purpose or context of the telephonic communication
- M H04M 2203/105 . . Financial transactions and auctions, e.g. bidding (~~auctioneering devices in packet switching networks H04L 12/1804~~)
- U H04M 2203/15 . related to dial plan and call routing
- M H04M 2203/158 . . Call-type dependent routing (~~route determination based on the nature of the carried application in packet switching networks H04L 45/306~~)
- U H04M 2203/20 . related to features of supplementary services
- M H04M 2203/205 . . Broadcasting (~~broadcasting in packet switching networks H04L 12/18~~)
- U H04M 2203/35 . related to information services provided via a voice call
- M H04M 2203/353 . . where the information comprises non-audio but is provided over voice channels (~~protocols for multimedia information services per se H04L 65/00~~)
- U H04M 2203/45 . related to voicemail messaging
- M H04M 2203/4509 . . Unified messaging with single point of access to voicemail and other mail or messaging systems (~~unified messaging in packet switching networks H04L 51/56~~)
- M H04M 2203/4518 . . Attachments to voicemail (~~messages including annexed information, e.g. Attachments, in packet switching networks H04L 51/08~~)
- M H04M 2203/4545 . . Message forwarding (~~selective message forwarding in packet switching networks H04L 51/214~~)

- M H04M 2203/4581 · · Sending message identifiers instead of whole messages ~~(notification of incoming messages in packet-switching networks H04L 51/224)~~
- U H04M 2203/50 · related to audio conference
- M H04M 2203/5009 · · Adding a party to an existing conference ~~(conducting a computer conference, e.g. admission detection H04L 12/1822)~~
- M H04M 2203/5018 · · Initiating a conference during a two-party conversation, i.e. three-party- service or three-way- call ~~(computer conference organisation arrangements H04L 12/1818)~~
- M H04M 2203/5027 · · Dropping a party from a conference ~~(conducting a computer conference, e.g. admission detection H04L 12/1822)~~
- M H04M 2203/5045 · · Selection of bridge/multipoint control unit ~~(network arrangements for computer conference optimisation H04L 12/1827)~~
- M H04M 2203/5063 · · Centrally initiated conference, i.e. **Conference** server dials participants ~~(computer conference organisation arrangements H04L 12/1818)~~
- M H04M 2203/5072 · · Multiple active speakers ~~(conducting a computer conference, e.g. Admission detection H04L 12/1822)~~
- M H04M 2203/5081 · · Inform conference party of participants, e.g. of change of participants ~~(conducting a computer conference, e.g. admission detection, H04L 12/1822)~~
- U H04M 2203/55 · related to network data storage and management
- M H04M 2203/551 · · Call history ~~(recording a computer conference H04L 12/1831)~~
- M H04M 2203/60 · related to security aspects in telephonic communication systems ~~(network architectures or network communication protocols for network security H04L 63/00)~~
- U H04M 2203/65 · related to applications where calls are combined with other types of communication
- M H04M 2203/651 · · Text message transmission triggered by call ~~(automatic reactions in messaging within packet-switching networks H04L 51/02)~~
- M H04M 2203/655 · · Combination of telephone service and social networking ~~(messaging within social networks H04L 51/52)~~

**Project: MP12189 (H04M)**

- U H04M 2215/00 Metering arrangements; Time controlling arrangements; Time indicating arrangements**
- U H04M 2215/78 · Metric aspects
- M H04M 2215/7886 · · Apply cheapest or best package, e.g. selection among available tariffs or packages ~~(least cost routing H04M 2215/42)~~

**Project: MP12111 (H04M)**

- U H04M 2242/00 Special services or facilities**
- M H04M 2242/14 · with services dependent on location ~~(where the service is an information service H04M 2242/15; services independent of location H04M 3/42229)~~

**Project: MP12189 (H04M)**

- U H04M 2250/00 Details of telephonic subscriber devices**
- M H04M 2250/12 · including a sensor for measuring a physical value, e.g. temperature or motion ~~(telephones including GPS signal receivers H04M 2250/10)~~

**Project: MP12111 (H04M)**

- M H04M 2250/22 · including a touch pad, a touch sensor or a touch detector ~~(digitizers for touch screens G06F 3/041)~~

- M H04M 2250/52 · including functional features of a camera (~~constructional features concerning the integration of cameras in portable phones H04M 1/0264~~)
- M H04M 2250/54 · including functional features of a projector or beamer module assembly (~~constructional features concerning the integration of projectors in portable phones H04M 1/0272~~)
- M H04M 2250/60 · logging of communication history, e.g. outgoing or incoming calls, missed calls, messages or URLs (~~logging of telephone numbers H04M 1/56, H04M 1/57~~)
- M H04M 2250/64 · file transfer between terminals (~~download of applications H04M 1/72406; transfer of messages, e.g. SMS, e-mail or MMS H04M 1/7243~~)
- M H04M 2250/68 · with means for recording information, e.g. telephone number during a conversation (~~recording of telephone conversations H04M 1/656~~)
- M H04M 2250/70 · methods for entering alphabetical characters, e.g. multi-tap or dictionary disambiguation (~~methods for entering alphabetical characters per se G06F 3/0237~~)
- M H04M 2250/74 · with voice recognition means (~~voice activated dialling H04M 1/271; voice recognition algorithms G10L 15/00~~)

**Project: MP12189 (H04N)**

- U H04N 2201/00 Indexing scheme relating to scanning, transmission or reproduction of documents or the like, and to details thereof**
- U H04N 2201/0008 · Connection or combination of a still picture apparatus with another apparatus
- M H04N 2201/0013 · · Arrangements for the control of the connected apparatus by the still picture apparatus (~~arrangements for the control of a still picture apparatus by the connected apparatus H04N 2201/0074; control of image communication with the connected apparatus H04N 2201/0015~~)
- U H04N 2201/0034 · · Details of the connection, e.g. connector, interface
- M H04N 2201/0044 · · · Connecting to a plurality of different apparatus; Using a plurality of different connectors (~~connection via a network H04N 2201/0039~~)
- M H04N 2201/0074 · · Arrangements for the control of a still picture apparatus by the connected apparatus (~~arrangements for the control of the connected apparatus by the still picture apparatus H04N 2201/0013; control of image communication with the connected apparatus H04N 2201/0015~~)
- U H04N 2201/04 · Scanning arrangements
- U H04N 2201/0402 · · Arrangements not specific to a particular one of the scanning methods covered by groups [H04N 1/04](#) - [H04N 1/207](#)
- M H04N 2201/0448 · · · for positioning scanning elements not otherwise provided for; Aligning, e.g. using an alignment calibration pattern (~~arrangements for positioning elements within a scanning head H04N 2201/02406~~)
- U H04N 2201/047 · · Detection, control or error compensation of scanning velocity or position
- U H04N 2201/04701 · · · Detection of scanning velocity or position
- M H04N 2201/04743 · · · · by detecting the image directly (~~detecting reference images H04N 2201/04717~~)

**Project: MP12111 (H04N)**

- U H04N 2201/32 · Circuits or arrangements for control or supervision between transmitter and receiver or between image input and image output device, e.g. between a still-image camera and its memory or between a still-image camera and a printer device
- U H04N 2201/3201 · · Display, printing, storage or transmission of additional information, e.g. ID code, date and time or title
- U H04N 2201/3225 · · · of data relating to an image, a page or a document

- M H04N 2201/3256 . . . colour related metadata, e.g. colour, ICC profiles ~~(for use made of colour related metadata see the appropriate place, e.g. H04N 1/60, H04N 1/60 and subgroups)~~

**Project: MP12189 (H04Q)**

- U H04Q 2213/00 Indexing scheme relating to selecting arrangements in general and for multiplex systems**
- M H04Q 2213/13136 . Collect call ~~(information service H04Q 2213/13376)~~
- M H04Q 2213/13336 . Store & forward, messaging systems ~~(email H04Q 2213/13375)~~
- M H04Q 2213/13402 . Data transmission out of voice frequency band ~~(ADSL H04Q 2213/13039)~~
- M H04Q 2213/13524 . cost management ~~(least cost H04Q 2213/13138)~~
- M H04Q 2213/407 . Push-button dialling ~~(not H04Q 2213/405)~~

**Project: MP12111 (H04R)**

- U H04R 2201/00 Details of transducers, loudspeakers or microphones covered by [H04R 1/00](#) but not provided for in any of its subgroups**
- M H04R 2201/003 . Mems transducers or their use ~~(of the electrostatic type H04R 19/005)~~
- U H04R 2420/00 Details of connection covered by [H04R](#), not provided for in its groups**
- M H04R 2420/01 . Input selection or mixing for amplifiers or loudspeakers ~~(for hearing aids H04R 25/43)~~

**Project: RP11833 (H04W)**

- U H04W 74/00 Wireless channel access**
- U H04W 74/002 . {Transmission of channel access control information}
- U H04W 74/006 . . {in the downlink, i.e. towards the terminal}
- D H04W 74/008 . . {with additional processing of random access related information at receiving side}
- <administratively transferred to [H04W 74/002](#)>

**Project: RP11898 (H05G)**

- U H05G 2/00 Apparatus or processes specially adapted for producing X-rays, not involving X-ray tubes, e.g. involving generation of a plasma (X-ray lasers [H01S 4/00](#))**
- C H05G 2/001 . {*Production of* X-ray radiation generated from plasma ~~(plasma for generation of electrons to be accelerated towards an anode H01J 35/00)~~}

**WARNING**

*Group [H05G 2/001](#) is impacted by reclassification into groups [H05G 2/002](#) - [H05G 2/0027](#), [H05G 2/007](#) and [H05G 2/009](#) - [H05G 2/0094](#).*

*All groups listed in this Warning should be considered in order to perform a complete search.*

- N H05G 2/002 . . {Supply of the plasma generating material}
- WARNING**
- Groups [H05G 2/002](#), [H05G 2/0025](#) and [H05G 2/0027](#) are incomplete pending reclassification of documents from groups [H05G 2/001](#), [H05G 2/003](#), [H05G 2/005](#), [H05G 2/006](#) and [H05G 2/008](#).*
- All groups listed in this Warning should be considered in order to perform a complete search.*

- N H05G 2/0023
- • • {Constructional details of the ejection system}
- WARNING  
Group [H05G 2/0023](#) is incomplete pending reclassification of documents from groups [H05G 2/001](#), [H05G 2/006](#) and [H05G 2/008](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H05G 2/0025
- • • {Systems for collecting the plasma generating material after the plasma generation}
- N H05G 2/0027
- • • {Arrangements for controlling the supply; Arrangements for measurements}
- C H05G 2/003
- • • {~~being produced from a~~the plasma being generated from a material in a liquid or gas state}
- WARNING  
Group [H05G 2/003](#) is impacted by reclassification into groups [H05G 2/002](#), [H05G 2/0025](#), [H05G 2/0027](#), [H05G 2/007](#), [H05G 2/0088](#) and [H05G 2/009 - H05G 2/0094](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H05G 2/0035
- • • {the material containing metals as principal radiation-generating components}
- WARNING  
Group [H05G 2/0035](#) is incomplete pending reclassification of documents from group [H05G 2/005](#).  
Groups [H05G 2/005](#) and [H05G 2/0035](#) should be considered in order to perform a complete search.
- F H05G 2/005  
(Frozen)
- • • {containing a metal as principal radiation generating component}
- WARNING  
Group [H05G 2/005](#) is no longer used for the classification of documents as of August 1, 2024.  
The content of this group is being reclassified into groups [H05G 2/002](#), [H05G 2/0025](#), [H05G 2/0027](#), [H05G 2/0035](#), [H05G 2/007](#), [H05G 2/0088](#) and [H05G 2/009 - H05G 2/0094](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- F H05G 2/006  
(Frozen)
- • • {details of the ejection system, e.g. constructional details of the nozzle}
- WARNING  
Group [H05G 2/006](#) is no longer used for the classification of documents as of August 1, 2024.  
The content of this group is being reclassified into groups [H05G 2/002 - H05G 2/0027](#), [H05G 2/007](#) and [H05G 2/009 - H05G 2/0094](#).  
All groups listed in this Warning should be considered in order to perform a complete search.
- N H05G 2/007
- • • {involving electric or magnetic fields in the process of plasma generation}
- WARNING  
Group [H05G 2/007](#) is incomplete pending reclassification of documents from groups [H05G 2/001](#), [H05G 2/003](#), [H05G 2/005](#), [H05G 2/006](#) and [H05G 2/008](#).  
All groups listed in this Warning should be considered in order to perform a complete search.

- C H05G 2/008 . . {involving ~~a beam of energy, e.g. laser or electron~~ *an energy-carrying* beam in the process of ~~exciting the plasma~~ *plasma generation*}

**WARNING**

*Group H05G 2/008 is impacted by reclassification into groups H05G 2/002 - H05G 2/0027, H05G 2/007, H05G 2/0082 - H05G 2/0088 and H05G 2/009 - H05G 2/0094.*

*All groups listed in this Warning should be considered in order to perform a complete search.*

- N H05G 2/0082 . . . {the energy-carrying beam being a laser beam}

**WARNING**

*Groups H05G 2/0082, H05G 2/0084 and H05G 2/0086 are incomplete pending reclassification of documents from group H05G 2/008.*

*All groups listed in this Warning should be considered in order to perform a complete search.*

- N H05G 2/0084 . . . {Control of the laser beam}

- N H05G 2/0086 . . . {Optical arrangements for conveying the laser beam to the plasma generation location}

- N H05G 2/0088 . . . {for preconditioning the plasma generating material}

**WARNING**

*Group H05G 2/0088 is incomplete pending reclassification of documents from groups H05G 2/003, H05G 2/005 and H05G 2/008.*

*All groups listed in this Warning should be considered in order to perform a complete search.*

- N H05G 2/009 . . {Auxiliary arrangements not involved in the plasma generation}

**WARNING**

*Groups H05G 2/009 - H05G 2/0094 are incomplete pending reclassification of documents from groups H05G 2/001, H05G 2/003, H05G 2/005, H05G 2/006 and H05G 2/008.*

*All groups listed in this Warning should be considered in order to perform a complete search.*

- N H05G 2/0092 . . . {Housing of the apparatus for producing X-rays; Environment inside the housing}

- N H05G 2/0094 . . . {Reduction, prevention or protection from contamination; Cleaning}

**Project: MP12189 (H05K)**

- U H05K 2201/00** Indexing scheme relating to printed circuits covered by [H05K 1/00](#)

- U H05K 2201/01 . Dielectrics

- U H05K 2201/0104 . . Properties and characteristics in general

- M H05K 2201/0133 . . Elastomeric or compliant polymer (~~elastomeric conductor H05K 2201/0314~~)

**Project: MP12111 (H05K)**

- U H05K 2201/0137 . . Materials

- M H05K 2201/017 . . Glass ceramic coating, e.g. formed on inorganic substrate (~~inorganic, non-metallic substrates H05K 1/0306~~)

**Project: MP12189 (H05K)**

- U H05K 2201/02 . Fillers; Particles; Fibers; Reinforcement materials

- U H05K 2201/0203 . . Fillers and particles

- U H05K 2201/0206 . . . Materials
- M H05K 2201/0233 . . . Deformable particles ~~(insulating particles having an electrically conductive coating H05K 2201/0221)~~
- M H05K 2201/0236 . . . Plating catalyst as filler in insulating material ~~(catalytic ink H05K 2203/0709)~~

**Project: MP12111 (H05K)**

- M H05K 2201/0239 . . . Coupling agent for particles ~~(using a coupling agent to improve the adhesion between an insulating substrate and a metal H05K 3/389)~~

**Project: MP12189 (H05K)**

- U H05K 2201/0242 . . . Shape of an individual particle
- M H05K 2201/0248 . . . Needles or elongated particles; Elongated cluster of chemically bonded particles ~~(microfibers H05K 2201/0251; stacked conductors H05K 2201/0379)~~
- M H05K 2201/0251 . . . Non-conductive microfibers ~~(relatively short elongated particles H05K 2201/0248)~~

**Project: MP12111 (H05K)**

- M H05K 2201/0257 . . . Nanoparticles ~~(inks comprising nanoparticles H05K 1/097)~~
- U H05K 2201/0275 . . . Fibers and reinforcement materials
- M H05K 2201/0284 . . . Paper, e.g. as reinforcement ~~(paper sheet substrates H05K 1/0386)~~
- M H05K 2201/029 . . . Woven fibrous reinforcement or textile ~~(textile substrates H05K 1/038)~~

**Project: MP12189 (H05K)**

- U H05K 2201/03 . . . Conductive materials
- U H05K 2201/0302 . . . Properties and characteristics in general
- M H05K 2201/0314 . . . Elastomeric connector or conductor, e.g. rubber with metallic filler ~~(elastomeric dielectric H05K 2201/0133)~~
- U H05K 2201/0332 . . . Structure of the conductor
- U H05K 2201/0335 . . . Layered conductors or foils
- M H05K 2201/0338 . . . Layered conductor, e.g. layered metal substrate, layered finish layer, *or* layered thin film adhesion layer ~~(etched tri-metal structure H05K 2201/0361)~~

**Project: MP12111 (H05K)**

- M H05K 2201/0347 . . . Overplating, e.g. for reinforcing conductors or bumps; Plating over filled vias ~~(reinforcing the conductive pattern H05K 3/24)~~
- U H05K 2201/0364 . . . Conductor shape
- M H05K 2201/0367 . . . Metallic bump or raised conductor not used as solder bump ~~(solder materials or compositions and methods of application thereof H05K 3/3457)~~

**Project: MP12189 (H05K)**

- M H05K 2201/0373 . . . Conductors having a fine structure, e.g. providing a plurality of contact points with a structured tool ~~(providing micro- or nanometer scale roughness on a metal surface H05K 2203/0307)~~

**Project: MP12111 (H05K)**

- U H05K 2201/0388 . . . Other aspects of conductors
- M H05K 2201/0397 . . . . Tab ~~(forming integral conductive tabs H05K 3/4092)~~
- U H05K 2201/04 . Assemblies of printed circuits
- M H05K 2201/046 . . Planar parts of folded PCBs making an angle relative to each other ~~(assembling printed circuits perpendicularly to each other H05K 3/366)~~

**Project: MP12189 (H05K)**

- U H05K 2201/06 . Thermal details
- M H05K 2201/066 . . Heatsink mounted on the surface of the ~~PCB~~ *printed circuit board [PCB]* ~~(heatsink inserted in the PCB H05K 2201/10416)~~

**Project: MP12111 (H05K)**

- U H05K 2201/07 . Electric details
- M H05K 2201/073 . . High voltage adaptations ~~(overvoltage protection H05K 1/0257)~~

**Project: MP12189 (H05K)**

- U H05K 2201/09 . Shape and layout
- U H05K 2201/09009 . . Substrate related
- M H05K 2201/09036 . . . Recesses or grooves in insulating substrate ~~(recess in metallic substrate H05K 2201/09745)~~
- M H05K 2201/09045 . . . Locally raised area or protrusion of insulating substrate ~~(rigid curved substrate H05K 2201/09018)~~
- U H05K 2201/09145 . . Edge details
- M H05K 2201/0919 . . . Exposing inner circuit layers or metal planes at the side edge of the *PCB printed circuit board [PCB]* or at the walls of large holes ~~(shielding provided by an inner layer of PCB H05K 2201/0723)~~

**Project: MP12111 (H05K)**

- M H05K 2201/092 . . . Exposing inner circuit layers or metal planes at the walls of high aspect ratio holes ~~(forming plated-through holes H05K 3/42; cutting around hole H05K 2203/0242)~~
- U H05K 2201/09209 . . Shape and layout details of conductors
- U H05K 2201/09218 . . . Conductive traces
- M H05K 2201/09236 . . . . Parallel layout ~~(layout of balanced signal pairs H05K 1/0245; superposed layout H05K 2201/09672)~~

**Project: MP12189 (H05K)**

- M H05K 2201/09245 . . . . Crossing layout ~~(alternating conductors H05K 2201/097)~~
- M H05K 2201/09281 . . . . Layout details of a single conductor ~~(meander H05K 2201/09263; layout details of angles or corners H05K 2201/09272)~~

**Project: MP12111 (H05K)**

- U H05K 2201/0929 . . . Conductive planes
- M H05K 2201/093 . . . . Layout of power planes, ground planes or power supply conductors, e.g. having special clearance holes therein ~~(reduction of cross-talk, noise or interference by patterned shielding planes, ground planes or power planes H05K 1/0224)~~

- M H05K 2201/09354 . . . . Ground conductor along edge of main surface ~~(edge-contacts H05K-3/403)~~

**Project: MP12189 (H05K)**

- U H05K 2201/09372 . . . . Pads and lands
- M H05K 2201/09381 . . . . Shape of non-curved single flat metallic pad, land or exposed part thereof; Shape of electrode of leadless component ~~(notches in edge-pads H05K-2201/09181)~~
- M H05K 2201/094 . . . . Array of pads or lands differing from one another, e.g. in size, pitch; *or* thickness; Using different connections on the pads ~~(using different types of conductors H05K-2201/0391)~~
- M H05K 2201/09463 . . . . Partial lands, i.e. lands or conductive rings not completely surrounding the hole ~~(landless plated-through-hole or via H05K-2201/09545)~~
- M H05K 2201/09472 . . . . Recessed pad for surface mounting ~~(recess in pad H05K-2201/09745)~~; Recessed electrode of component

**Project: MP12111 (H05K)**

- M H05K 2201/09481 . . . . Via in pad; Pad over filled via ~~(if used for surface mounting H05K-1/113)~~
- M H05K 2201/0949 . . . . Pad close to a hole, not surrounding the hole ~~(if used for surface mounting H05K-1/114)~~

**Project: MP12189 (H05K)**

- U H05K 2201/095 . . . . Conductive through-holes or vias
- M H05K 2201/09563 . . . . Metal filled via ~~(plated through-hole filled with insulating material H05K-2201/0959)~~

**Project: MP12111 (H05K)**

- M H05K 2201/09572 . . . . Solder filled plated through-hole in the final product ~~(soldering lead-in-hole components H05K-3/3447)~~

**Project: MP12189 (H05K)**

- M H05K 2201/09609 . . . . Via grid, i.e. two-dimensional array of vias or holes in a single plane ~~(interposers H05K-2201/10378)~~
- M H05K 2201/09627 . . . . Special connections between adjacent vias, not for grounding vias ~~(redundant conductors or connections H05K-2201/0979)~~
- U H05K 2201/09654 . . . . covering at least two types of conductors provided for in [H05K 2201/09218](#) - [H05K 2201/095](#)
- M H05K 2201/09663 . . . . Divided layout, i.e. conductors divided in two or more parts ~~(branched layout H05K-2201/09254)~~
- M H05K 2201/09672 . . . . Superposed layout, i.e. in different planes ~~(parallel traces in one plane H05K-2201/09236)~~
- M H05K 2201/09754 . . . . Connector integrally incorporated in the *PCB printed circuit board [PCB]* or in housing ~~(mounted connector H05K-2201/10189)~~

**Project: MP12111 (H05K)**

- M H05K 2201/09772 . . . . Conductors directly under a component but not electrically connected to the component ~~(cooling of mounted components by printed thermal vias H05K-1/0206)~~
- M H05K 2201/09809 . . . . Coaxial layout ~~(reduction of cross-talk, noise or interference by printed shielding conductors for shielding around a single via or around a group of vias H05K-1/0222)~~

**Project: MP12189 (H05K)**

- U H05K 2201/09818 . . Shape or layout details not covered by a single group of [H05K 2201/09009](#) - [H05K 2201/09809](#)
- M H05K 2201/09827 . . . Tapered, e.g. tapered hole, via or groove (~~bevelled, chamfered or tapered edge H05K 2201/09154~~)
- M H05K 2201/09872 . . . Insulating conformal coating (~~foil encapsulation H05K 2203/1311~~)
- U H05K 2201/10 . . Details of components or other objects attached to or integrated in a printed circuit board
- U H05K 2201/10227 . . Other objects, e.g. metallic pieces
- M H05K 2201/10234 . . . Metallic balls (~~solder balls H05K 2203/041~~)
- M H05K 2201/10242 . . . Metallic cylinders (~~small solder preforms other than balls H05K 2203/0415~~)
- M H05K 2201/1025 . . . Metallic discs (~~small solder preforms other than balls H05K 2203/0415~~)
- M H05K 2201/10272 . . . Busbars, i.e. thick metal bars mounted on the [PCB printed circuit board \[PCB\]](#) as high-current conductors (~~metal strips H05K 2201/1028~~)
- M H05K 2201/1034 . . . Edge terminals, i.e. separate pieces of metal attached to the edge of the [PCB printed circuit board \[PCB\]](#) (~~tab H05K 2201/0397~~)

**Project: MP12111 (H05K)**

- M H05K 2201/10416 . . . Metallic blocks or heatsinks completely inserted in a PCB (~~metallic supports H05K 3/0061~~)
- M H05K 2201/10431 . . Details of mounted components (~~printed components H05K 1/16~~)
- U H05K 2201/10439 . . . Position of a single component
- M H05K 2201/10446 . . . . Mounted on an edge (~~soldering edge mounted components H05K 3/3405; edge terminals H05K 2201/1034~~)

**Project: MP12189 (H05K)**

- M H05K 2201/10492 . . . . Electrically connected to another device (~~mounted components directly electrically connected to each other H05K 2201/1053~~)
- M H05K 2201/105 . . . . Mechanically attached to another device (~~attached components H05K 2201/10537~~)
- M H05K 2201/10575 . . . Insulating foil under component (~~permanent spacer or stand-off H05K 2201/2036~~)
- M H05K 2201/10606 . . . Permanent holder for component or auxiliary [PCB printed circuits](#) mounted on a [PCB printed circuit board \[PCB\]](#) (~~clamping a component by an element or a set of elements H05K 2201/10393~~)

**Project: MP12111 (H05K)**

- U H05K 2201/10613 . . Details of electrical connections of non-printed components, e.g. special leads
- U H05K 2201/10621 . . . Components characterised by their electrical contacts
- M H05K 2201/10628 . . . . Leaded surface mounted device (~~soldering surface mounted leaded components H05K 3/3421~~)
- U H05K 2201/10742 . . . Details of leads
- U H05K 2201/10886 . . . . Other details
- M H05K 2201/10924 . . . . . Leads formed from a punched metal foil (~~affixing a prefabricated self-supporting metal foil pattern H05K 3/202~~)
- U H05K 2201/10954 . . . Other details of electrical connections
- M H05K 2201/10977 . . . . Encapsulated connections (~~applying non-metallic protective coatings for encapsulating mounted components H05K 3/284~~)

- M H05K 2201/10984 . . . Component carrying a connection agent, e.g. solder, adhesive (~~soldering leadless components having an array of bottom contacts H05K 3/3436; BGA components H05K 2201/10734~~)

**Project: MP12189 (H05K)**

- U H05K 2201/20 . Details of printed circuits not provided for in [H05K 2201/01](#) - [H05K 2201/10](#)
- M H05K 2201/2036 . . Permanent spacer or stand-off in a printed circuit or printed circuit assembly (~~pattern for applying drops or paste H05K 2203/0545~~)
- M H05K 2201/2072 . . Anchoring, i.e. one structure gripping into another (~~providing micro- or nanometer scale roughness on a metal surface H05K 2203/0307~~)

**Project: MP12111 (H05K)**

- U H05K 2203/00 Indexing scheme relating to apparatus or processes for manufacturing printed circuits covered by [H05K 3/00](#)**
- U H05K 2203/01 . Tools for processing; Objects used during processing
- U H05K 2203/0104 . . for patterning or coating
- M H05K 2203/013 . . . Inkjet printing, e.g. for printing insulating material or resist (~~using ink-jet printing to form a conductive pattern H05K 3/125~~)
- U H05K 2203/0147 . . Carriers and holders
- M H05K 2203/0152 . . . Temporary metallic carrier, e.g. for transferring material (~~affixing a prefabricated conductor pattern formed by electroplating or electroforming on a metallic carrier H05K 3/205~~)

**Project: MP12189 (H05K)**

- U H05K 2203/02 . Details related to mechanical or acoustic processing, e.g. drilling, punching, cutting, using ultrasound
- M H05K 2203/025 . . Abrading, e.g. grinding or sand blasting (~~deburring, rounding, bevelling or smoothing conductor edges H05K 2203/0346~~)

**Project: MP12111 (H05K)**

- U H05K 2203/03 . Metal processing
- M H05K 2203/033 . . Punching metal foil, e.g. solder foil (~~affixing a prefabricated self-supporting metal foil pattern H05K 3/202~~)
- M H05K 2203/0338 . . Transferring metal or conductive material other than a circuit pattern, e.g. bump, solder, printed component (~~affixing a prefabricated conductor pattern H05K 3/20~~)

**Project: MP12189 (H05K)**

- M H05K 2203/0353 . . Making conductive layer thin, e.g. by etching (~~selective thinning for providing different thickness H05K 2203/0369~~)

**Project: MP12111 (H05K)**

- M H05K 2203/0392 . . Pretreatment of metal, e.g. before finish plating, etching (~~improvement of the adhesion between an insulating substrate and a metal by special treatment of the metal H05K 3/382~~)

**Project: MP12189 (H05K)**

- M H05K 2203/04 . Soldering or other types of metallurgic bonding (~~using molten metal H05K 2203/128~~)

**Project: MP12111 (H05K)**

- M H05K 2203/041     • • Solder preforms in the shape of solder balls ~~(soldering leadless components having an array of bottom contacts H05K 3/3436)~~
- U H05K 2203/05     • Patterning and lithography; Masks; Details of resist
- U H05K 2203/0502   • • Patterning and lithography
- M H05K 2203/0542   • • • Continuous temporary metal layer over metal pattern ~~(reinforcing the conductive pattern characterised by the electroplating method H05K 3/241)~~
- M H05K 2203/0545   • • • Pattern for applying drops or paste; Applying a pattern made of drops or paste ~~(using thick film techniques to apply conductive material by using a substrate with a shape pattern H05K 3/1258)~~

**Project: MP12189 (H05K)**

- U H05K 2203/0562   • • Details of resist
- M H05K 2203/0597   • • • Resist applied over the edges or sides of conductors, e.g. for protection during etching or plating ~~(coating over pads H05K 2201/09818)~~

**Project: MP12111 (H05K)**

- U H05K 2203/06     • Lamination
- M H05K 2203/061   • • of previously made multilayered subassemblies ~~(laminating only or mainly similar single-sided circuit boards H05K 3/4617; laminating only or mainly similar double-sided circuit boards H05K 3/462)~~

**Project: MP12189 (H05K)**

- M H05K 2203/066   • • Transfer laminating of insulating material, e.g. resist as a whole layer, not as a pattern ~~(transferring an insulating pattern H05K 2203/0537)~~
- U H05K 2203/07     • Treatments involving liquids, e.g. plating, rinsing
- U H05K 2203/0703   • • Plating
- M H05K 2203/0709   • • • Catalytic ink or adhesive for electroless plating ~~(catalyst filler H05K 2201/0236)~~
- U H05K 2203/10     • Using electric, magnetic and electromagnetic fields; Using laser light
- M H05K 2203/105   • • Using an electrical field; Special methods of applying an electric potential ~~(electroplating H05K 2203/0723)~~

**Project: MP12111 (H05K)**

- M H05K 2203/107   • • Using laser light ~~(shaping a substrate by laser ablation H05K 3/0026)~~
- U H05K 2203/11     • Treatments characterised by their effect, e.g. heating, cooling, roughening
- M H05K 2203/1121   • • Cooling, e.g. specific areas of a PCB being cooled during reflow soldering ~~(details related to cooling of mounted components H05K 1/0203)~~

**Project: MP12189 (H05K)**

- M H05K 2203/1163   • • Chemical reaction, e.g. heating solder by exothermic reaction ~~(oxidising metal H05K 2203/0315)~~
- U H05K 2203/12     • Using specific substances
- M H05K 2203/122   • • Organic non-polymeric compounds, e.g. oil, wax, ~~thiol or thiol~~ ~~(using solvent H05K 2203/0783)~~
- M H05K 2203/128   • • Molten metals, e.g. casting thereof, or melting by heating and excluding molten solder ~~(spraying droplets of molten metal H05K 2203/1344)~~

**Project: MP12111 (H05K)**

- U H05K 2203/13 · Moulding and encapsulation; Deposition techniques; Protective layers
- U H05K 2203/1305 · · Moulding and encapsulation
- M H05K 2203/1327 · · · Moulding over PCB locally or completely ~~(applying non-metallic protective coatings for encapsulating mounted components H05K 3/284)~~
- U H05K 2203/1333 · · Deposition techniques, e.g. coating
- M H05K 2203/1361 · · · Coating by immersion in coating bath ~~(applying molten solder H05K 3/3468)~~
- M H05K 2203/1366 · · · Spraying coating ~~(apparatus for coating printed circuit boards using liquid non-metallic coating compositions H05K 3/0091)~~

**Project: MP12189 (H05K)**

- M H05K 2203/1372 · · · Coating by using a liquid wave ~~(solder dip coating H05K 2203/04)~~
- U H05K 2203/14 · Related to the order of processing steps
- M H05K 2203/1438 · · Treating holes after another process, e.g. coating holes after coating the substrate ~~(metal used as mask for etching vias H05K 2203/0554)~~

**Project: MP12111 (H05K)**

- U H05K 2203/16 · Inspection; Monitoring; Aligning
- M H05K 2203/162 · · Testing a finished product, e.g. heat cycle testing of solder joints ~~(patterns for electrical inspection or testing H05K 1/0268)~~
- U H05K 2203/17 · Post-manufacturing processes
- M H05K 2203/173 · · Adding connections between adjacent pads or conductors, e.g. for modifying or repairing ~~(programmable, customizable or modifiable circuits H05K 1/0286)~~
- M H05K 2203/176 · · Removing, replacing or disconnecting component; Easily removable component ~~(thermal arrangements, e.g. to prevent overheating H05K 1/0201)~~
- U H05K 2203/30 · Details of processes not otherwise provided for in [H05K 2203/01](#) - [H05K 2203/17](#)
- M H05K 2203/302 · · Bending a rigid substrate; Breaking rigid substrates by bending ~~(rigid circuit boards or rigid supports locally made bendable H05K 1/0278)~~